Analog and Interface

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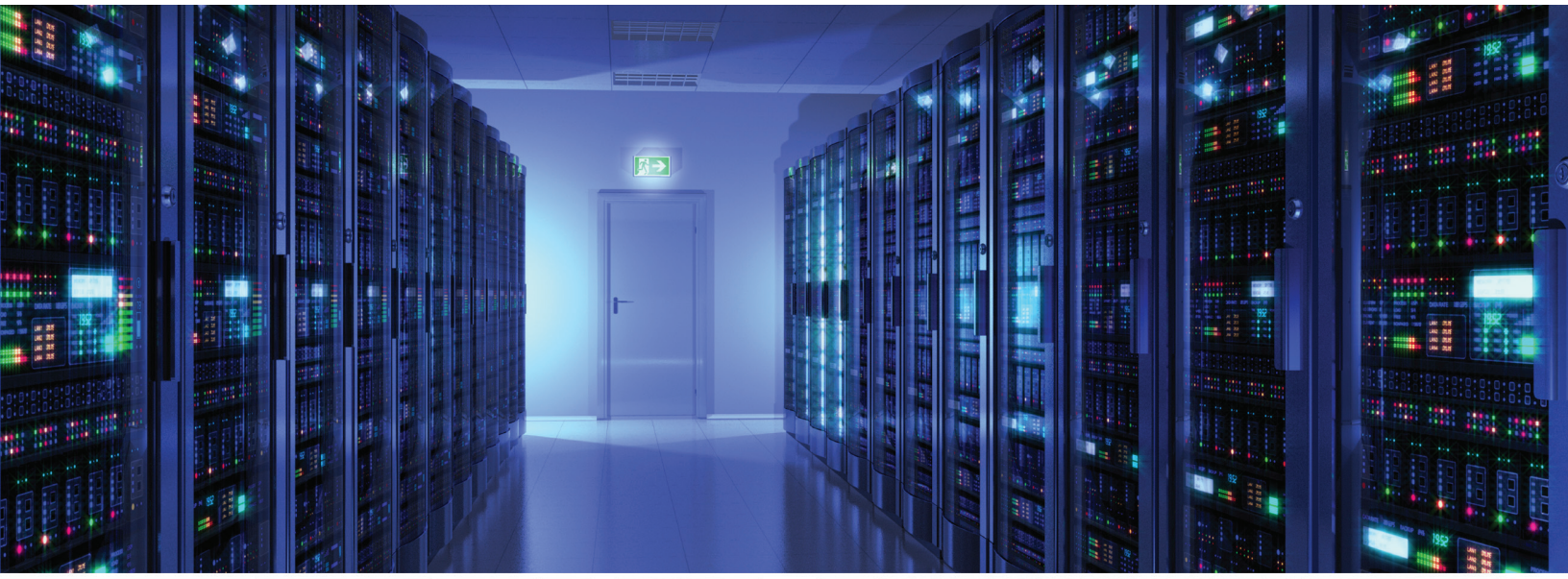
Analog and Interface Product Selector Guide

Thermal Management • Motor Driver • Power Management
Interface and Networking Peripherals • Linear and Mixed Signal
CO and Smoke Detector ICs



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Are You Looking for Complete Analog and Interface Design Solutions?

Microchip's integrated analog technology, peripherals and features are engineered to meet today's demanding design requirements. Our broad spectrum of analog products addresses thermal management, power management, battery management, mixed-signal, linear, interface and safety and security solutions. Combined with Microchip's Intelligent Analog microcontrollers, our extensive analog portfolio can be used in thousands of high-performance design applications in the automotive, communications (wireless), consumer, computing and industrial control markets.

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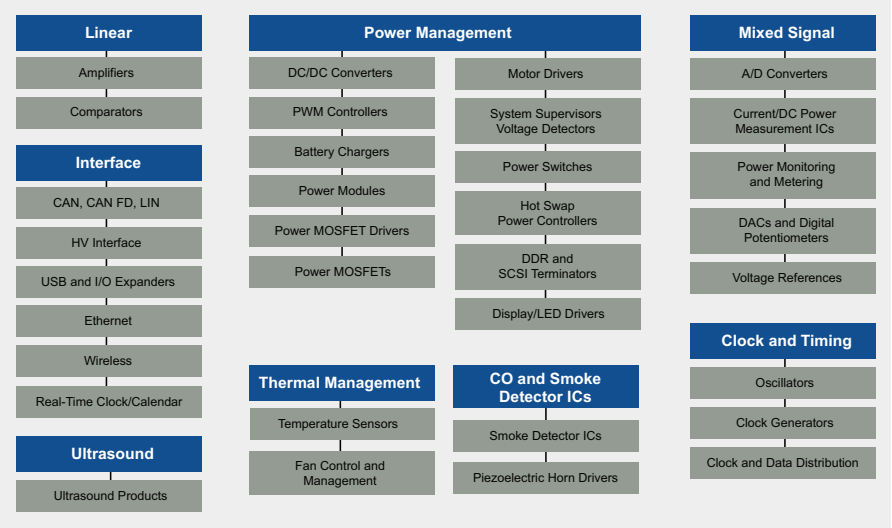

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THERMAL MANAGEMENT

THERMAL MANAGEMENT: Multichannel Temperature Sensors

Part #	Typical Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temperature Range (°C)	Vcc Range (V)	Maximum Supply Current (µA)	Features
Logic Output Temperature Sensors						
TC6501	±0.5	±3	–55 to +125	+2.7 to +5.5	40	Cross to MAX6501, open-drain
TC6502	±0.5	±3	–55 to +125	+2.7 to +5.5	40	Cross to MAX6502, push-pull
TC6503	±0.5	±3	–55 to +125	+2.7 to +5.5	40	Cross to MAX6503, open-drain
TC6504	±0.5	±3	–55 to +125	+2.7 to +5.5	40	Cross to MAX6504, push-pull
TC620	±1	±3	–40 to +125	+4.5 to +18	400	Two resistor-programmable trip points
TC621	Note 1	Note 1	–40 to +85	+4.5 to +18	400	Requires external thermistor, resistor-programmable trip points
TC622	±1	±5	–40 to +125	+4.5 to +18	600	Dual output, TO-220 for heat sink mounting, resistor-programmable trip points
TC623	±1	±3	–40 to +125	+2.7 to +4.5	250	Two resistor-programmable trip points
TC624	±1	±5	–40 to +125	+2.7 to +4.5	300	Dual output, resistor-programmable trip points
MCP9501	±1	±4	–40 to +125	+2.7 to +5.5	40	Active-High, Push-Pull Output, Rising Temperature Switch
MCP9502	±1	±4	–40 to +125	+2.7 to +5.5	40	Active-Low, Open Drain Output, Rising Temperature Switch
MCP9503	±1	±4	–40 to +125	+2.7 to +5.5	40	Active-High, Push-Pull Output, Falling Temperature Switch
MCP9504	±1	±4	–40 to +125	+2.7 to +5.5	40	Active-Low, Open Drain Output, Falling Temperature Switch
MCP9509	±0.5	NS	–40 to +125	+2.7 to +5.5	50	Resistor-programmable temperature switch
MCP9510	±0.5	NS	–40 to +125	+2.7 to +5.5	80	Resistor-programmable temperature switch
Voltage Output Temperature Sensors						
MCP9700	±1	±4	–40 to +125	+2.3 to +5.5	12	Linear Active Thermistor® IC, Temperature slope: 10 mV/°C
MCP9701	±1	±4	–40 to +125	+3.1 to +5.5	12	Linear Active Thermistor IC, Temperature slope: 19.53 mV/°C, cross to MAX6612
MCP9700A	±1	±2	–40 to +125	+2.3 to +5.5	12	Linear Active Thermistor IC, Temperature slope: 10 mV/°C
MCP9701A	±1	±2	–40 to +125	+3.1 to +5.5	12	Linear Active Thermistor IC, Temperature slope: 19.53 mV/°C, cross to MAX6612
TC1046	±0.5	±2	–40 to +125	+2.7 to +4.4	60	High precision temperature-to-voltage converter, 6.25 mV/°C
TC1047	±0.5	±2	–40 to +125	+2.7 to +4.4	60	High precision temperature-to-voltage converter, 10 mV/°C
TC1047A	±0.5	±2	–40 to +125	+2.5 to +5.5	60	High precision temperature-to-voltage converter, 10 mV/°C
Serial Output Temperature Sensors						
MCP9800	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SMBus/I²C compatible interface, 0.0625°C to 0.5°C adj. resolution, Power-saving one-shot temperature measurement
MCP9801	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SMBus/I²C compatible interface, 0.0625°C to 0.5°C adj. resolution, Power-saving one-shot temperature measurement, multi-drop capability
MCP9802	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SMBus/I²C compatible interface with time out, 0.0625°C to 0.5°C adj. resolution, Power-saving one-shot temperature measurement
MCP9803	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SMBus/I²C compatible interface with time out, 0.0625°C to 0.5°C adj. resolution, Power-saving one-shot temperature measurement, Multi-drop capability
MCP9804	±0.25	±1	–40 to +125	+2.7 to +5.5	400	User programmable temperature limits with alert output, 1°C temp. accuracy from –40°C to +125°C
MCP9805	±0.5	±1(2)	–20 to +125	+3.0 to +3.6	400	JEDEC-compatible register set, SMBus/I²C compatible interface, Programmable, Shut-down modes and EVENT output
MCP9808	±0.25	±0.5	–40 to +125	+2.7 to +5.5	400	0.5°C temperature accuracy from –10°C to +100°C
MCP9843	±0.5	±1(2)	–20 to +125	+3.0 to +3.6	500	Compliant to JEDEC TSE3000B3 specification
MCP98243	±1	±3	–40 to +125	+3.0 to +3.6	500	Serial output temperature sensor with integrated EEPROM (TSE2002B3)
MCP98244	±0.5	±3	–40 to +125	+1.7 to +3.6	500	Serial output temperature sensor compliant to TSE2004a
MCP9844	±0.5	±3	–40 to +125	+1.7 to +3.6	500	Serial output temperature sensor with integrated EEPROM (TSE2004a)
TC77	±0.5	±1	–55 to +125	+2.7 to +5.5	400	SPI-compatible interface, 0.0625°C temperature resolution
TC72	±0.5	±1	–55 to +125	+2.65 to +5.5	400	SPI-compatible interface, Power-saving one-shot temperature measurement, 0.25°C temperature resolution
TC74	±0.5	±2	–40 to +125	+2.7 to +5.5	350	SMBus/I²C-compatible interface, 1°C temperature resolution
TCN75A	±0.5	±2	–40 to +125	+2.7 to +5.5	500	SMBus/I²C-compatible interface, power-saving one-shot temperature measurement, multi-drop capability, 0.0625°C to 0.5°C adjustable temperature resolution
AT30TS74	±1	±2	–55 to +125	+1.7 to +5.5	125	SMBus/I²C compatible interface, 0.0625°C to 0.5°C adj. resolution, power-saving one-shot temperature measurement
AT30TS75A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I²C compatible interface, 0.0625°C to 0.5°C adj. resolution, power-saving one-shot temperature measurement
AT30TS750A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I²C compatible interface, nonvoltatile registers to retain user-configured or pre-defined power-up defaults
AT30TSE752A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I²C compatible interface, nonvoltatile registers to retain user-configured or pre-defined power-up defaults, integrated 2 KB serial EEPROM

Note 1: These devices use an external temperature sensor. Accuracy of the total solution is a function of the accuracy of the external sensor.
2: Maximum accuracy measured at 85°C.

THERMAL MANAGEMENT: Multichannel Temperature Sensors

Part #	Typical Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temperature Range (°C)	Vcc Range (V)	Maximum Supply Current (µA)	Features
Serial Output Temperature Sensors (Continued)						
AT30TSE754A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I²C compatible interface, nonvoltatile registers to retain user-configured or pre-defined power integrated 4 KB serial EEPROM
AT30TSE758A	±0.5	±1	–55 to +125	+1.7 to +5.5	125	SMBus/I²C compatible interface, nonvoltatile registers to retain user-configured or pre-defined power- integrated 8 KB serial EEPROM
AT30TSE002B	±1	±3	–40 to +125	+2.7 to +3.6	500	JEDEC (JC42.4) SO-DIMM SPD + TS compliant, SMBus/I²C compatible interface, integrated 2 KB se
AT30TSE004A	±0.5	±3	–40 to +125	+1.7 to +3.6	500	JEDEC JC42.4 (TSE2004av) DIMM SPD + TS compliant, SMBus/I²C compatible interface, integrated 4

THERMAL MANAGEMENT PRODUCTS: Multichannel Temperature Sensors

Part #	# of Remote Temp. Sensors	Typ. Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temp. Range (°C)	Ambient Temp. Sensor	Alert/ THERM	Hardware Shutdown	Vcc Range (V)	Typ.Supply Current (µA)	Description and Additional Features
Serial Output Temperature Sensors with Multichannel Temperature Sensors										
MIC184	1	±1.0	±2.0	–55 to +125	1	1	–	2.7–5.5	340	Local/Remote Thermal Supervisor
MIC280	1	±1.0	±2.0	–55 to +125	1	1	–	3.0–3.6	230	Precision IttyBitty® Thermal Supervisor
MIC281	1	±1.0	±3.0	–55 to +125	0	1	–	3.0–3.6	230	Low-Cost IttyBitty Thermal Sensor
MIC284	1	±1.0	±2.0	–55 to +125	1	2	–	2.7–5.5	350	Two-Zone Thermal Supervisor with CRIT Output
MIC384	2	±1.0	±2.0	–55 to +125	1	1	–	2.7–5.5	350	Three-Zone Thermal Supervisor
MCP9902	1	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	450	Lower Temperature Dual Temperature Sensor
MCP9903	2	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	450	Lower Temperature Triple Temperature Sensor
MCP9904	3	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	450	Lower Temperature Quad Temperature Sensor
EMC1046	5	±0.25	±1.0	–40 to +125	1	–	–	3.0–3.6	395	Sextuple SMBus/I²C Sensor with REC, Beta Compensation and Hotte
EMC1047	6	±0.25	±1.0	–40 to +125	1	–	–	3.0–3.6	395	Septuple SMBus/I²C Sensor with REC, Beta Compensation and Hotte
EMC1072	1	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Dual SMBus/I²C Sensor with Selectable Address
EMC1073	2	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Triple SMBus/I²C Sensor with Selectable Address
EMC1074	3	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Quad SMBus/I²C Sensor with Selectable Address
EMC1812	1	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Dual Channel 1.8V Temperature Sensor with Rate of Change, Resista Correction, Beta Comp
EMC1813	2	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Triple Channel 1.8V Temperature Sensor with Rate of Change, Resist Correction, Beta Comp
EMC1814	3	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Quad Channel 1.8V Temperature Sensor with Rate of Change, Resist Correction, Beta Comp
EMC1815	4	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Five Channel 1.8V Temperature Sensor with Rate of Change, Resista Beta Comp
EMC1833	2	±0.25	±1.0	–40 to +125	1	2	–	1.62–3.6	25	Triple Channel 1.8V Temperature Sensor with Rate of Change, Resist Correction, Beta Comp
EMC1412	1	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Dual SMBus/I²C Sensor with REC, Beta Compensation and Selectabl
EMC1413	2	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Triple SMBus/I²C Sensor with REC, Beta Compensation and Selectab
EMC1414	3	±0.25	±1.0	–40 to +125	1	2	–	3.0–3.6	430	Quad SMBus/I²C Sensor with REC, Beta Compensation and Selectab
EMC1422	1	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	430	Dual SMBus/I²C Sensor with REC, Beta Compensation and Resistor- Thermal Shutdown
EMC1423	2	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	430	Triple SMBus/I²C Sensor with REC, Beta Compensation and Resistor Thermal Shutdown
EMC1424	3	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	430	Quad SMBus/I²C Sensor with REC, Beta Compensation and Resistor Thermal Shutdown
EMC1428	7	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	450	Octal SMBus/I²C Sensor REC, Beta Compensation and Resistor-Sett Thermal Shutdown and Hottest of Thermal Zones
EMC1438	7	±0.25	±1.0	–40 to +125	1	1	1	3.0–3.6	450	Octal SMBus/I²C Sensor REC, Beta Compensation and Resistor-Sett Thermal Shutdown and Hottest of Thermal Zones
EMC1822	**1**	**±0.25**	**±1.0**	**–40 to +125**	**1**	**1**	**1**	**1.62–3.6**	**25**	**Dual Channel 1.8V Temperature Sensor with Rate of Change, Re Correction, Beta Comp**
EMC1823	**2**	**±0.25**	**±1.0**	**–40 to +125**	**1**	**1**	**1**	**1.62–3.6**	**25**	**Triple Channel 1.8V Temperature Sensor with Rate of Change, R Correction, Beta Comp**
EMC1824	**3**	**±0.25**	**±1.0**	**–40 to +125**	**1**	**1**	**1**	**1.62–3.6**	**25**	**Quad Channel 1.8V Temperature Sensor with Rate of Change, Re Correction, Beta Comp**
EMC1825	**4**	**±0.25**	**±1.0**	**–40 to +125**	**1**	**1**	**1**	**1.62–3.6**	**25**	**Five Channel 1.8V Temperature Sensor with Rate of Change, Res Correction, Beta Comp**
EMC1843	**2**	**±0.25**	**±1.0**	**–40 to +125**	**1**	**1**	**1**	**1.62–3.6**	**25**	**Triple Channel 1.8V Temperature Sensor with Rate of Change, R Correction, Beta Comp**

Note 1: These devices use an external temperature sensor. Accuracy of the total solution is a function of the accuracy of the external sensor. **2:** Maximum accuracy measured at 85°C. **3:** TCN75 idle current is 250 mA. T reduces supply current to < 1 mA.

THERMAL MANAGEMENT: Sensor Conditioning ICs

Product	Description	Typical Tc Accuracy (°C)	Typical Th Accuracy (°C)	Temperat Range (
MCP9600	±1.5°C thermocouple to degrees C converter. Supports thermocouple types K, J, T, N, S, E, B and R.	1	1	–40 to +
MCP96L00	±4°C thermocouple to degrees C converter. Supports thermocouple types K, J, T, N, S, E, B and R.	1	4	–40 to +
MCP96RL00	±6°C thermocouple to degrees C converter. Supports thermocouple types K, J, T, N, S, E, B and R.	1	6	–40 to +
MCP9601	**±1.5C Thermocouple to I²C converter. This device has Opens/Shorts pin detection. This device supports K, J, T, N, S, E, B and R type thermocouples.**	**±1.0**	**±1.5**	**–40 to +**
MCP96L01	**±4.0C Thermocouple to I²C converter. This device has Opens/Shorts pin detection. This device supports K, J, T, N, S, E, B and R type thermocouples.**	**±1.0**	**±4.0**	**–40 to +**
MCP96RL01	**±6.0C Thermocouple to I²C converter. This device has Opens/Shorts pin detection. This device supports K, J, T, N, S, E, B and R type thermocouples.**	**±1.0**	**±6.0**	**–40 to +**

THERMAL MANAGEMENT: Open-Loop Fan Controllers and Fan Fault Detectors

Part #	Description	# of Temp. Monitors	Typical Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temperature Range (°C)	Vcc Range (V)	Maximum Supply Current (µA)	Features
EMC2101	Single SMBus I²C Fan Manager	2	±0.5	±1	–40 to +125	+3.0 to +3.6	1,000	Fan Controller with high-frequency PWM driver, programmab speed table and alert
TC642	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	FanSense™ Fan Monitor, Minimum fan speed control
TC642B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	FanSense Fan Monitor, Minimum fan speed control, Fan auto
TC646	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	FanSense Fan Monitor, Auto-shutdown
TC646B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	FanSense Fan Monitor, Auto-shutdown, Fan auto-restart
TC647	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	FanSense Fan Monitor, Minimum fan speed control
TC647B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	FanSense Fan Monitor, Minimum fan speed control, Fan auto
TC648	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	Overtemperature alert, Auto-shutdown
TC648B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	Overtemperature alert, Auto-shutdown, Fan auto-restart
TC649	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	1,000	FanSense Fan Monitor, Auto-shutdown
TC649B	Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	400	FanSense Fan Monitor, Auto-shutdown, Fan auto-restart
TC650	Fan Manager	1	±1	±3	–40 to +125	+2.8 to +5.5	90	Overtemperature alert
TC651	Fan Manager	1	±1	±3	–40 to +125	+2.8 to +5.5	90	Overtemperature alert, Auto-shutdown
TC652	Fan Manager	1	±1	±3	–40 to +125	+2.8 to +5.5	90	FanSense Fan Monitor, Overtemperature alert
TC653	Fan Manager	1	±1	±3	–40 to +125	+2.8 to +5.5	90	FanSense Fan Monitor, Overtemperature alert, Auto-shutdow
TC654	Dual SMBus Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	320	FanSense Fan Monitor, RPM data
TC655	Dual SMBus Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	320	FanSense Fan Monitor, RPM data, Overtemperature alert
TC664	Single SMBus Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	320	FanSense Fan Monitor, RPM data
TC665	Single SMBus Fan Manager	1	Note 1	Note 1	–40 to +85	+3.0 to +5.5	320	FanSense Fan Monitor, RPM data, Overtemperature alert
TC670	Predictive Fan Fault Detector	1	N/A	N/A	–40 to +85	+3.0 to +5.5	150	FanSense Fan Monitor, Programmable threshold

Note 1: These devices use an external temperature sensor. Accuracy of the total solution is a function of the accuracy of the external sensor.

THERMAL MANAGEMENT: Closed-Loop Fan Controllers with SMBus/I²C Interface

Part #	# of Fan Drivers	PWM/ Linear Control	# of Remote Temp. Monitors	Ambient Temp. Sensor	Typical Accuracy (°C)	Maximum Accuracy @ 25°C (°C)	Maximum Temperature Range (°C)	Vcc Range (V)	SMBus Alert	System Shutdown	Voltage Monitors	Desc
EMC2112	1	Linear	3	1	±0.25	±1.0	0 to +85	+3.3 and +5	Yes	Yes	No	RPM-Based Fan Controller with
EMC2103-1	1	PWM	1	1	±0.5	±1.0	–40 to +125	+3.0 to +3.6	Yes	Yes	No	RPM-Based Fan Controller with
EMC2103-2	1	PWM	3	1	±0.5	±1.0	–40 to +125	+3.0 to +3.6	Yes	Yes	No	RPM-Based Fan Controller with
EMC2103-4	1	PWM	3	1	±0.5	±1.0	–40 to +125	+3.0 to +3.6	Yes	Yes	No	RPM-Based Fan Controller with and EEPROM loadable
EMC2104	2	PWM	4	1	±0.25	±1.0	–40 to +85	+3.0 to +3.6	Yes	Yes	Yes	Dual RPM-Based PWM Fan Co Shutdown
EMC2105	1	Linear	4	1	±0.25	±1.0	–40 to +85	+3.3 and +5.0	Yes	Yes	Yes	RPM-Based High-Side Fan Cor Shutdown

THERMAL MANAGEMENT: Closed-Loop Fan Controllers with SMBus/I²C Interface												
EMC2106	2	PWM & Linear	4	1	±0.25	±1.0	–40 to +85	+3.3 and +5.0	Yes	Yes	Yes	RPM-Based High Side Fan Con Shutdown
EMC2113	1	PWM	3	1	±0.5	±1.0	–40 to +125	+3.0 to +3.6	Yes	Yes	No	Single RPM-Based Fan Controller and Hardware Thermal Shutdown
EMC2301	1	PWM	N/A	N/A	N/A	N/A	–40 to +125	+3.0 to +3.6	Yes	No	N/A	Single RPM-Based PWM Fan S
EMC2302	2	PWM	N/A	N/A	N/A	N/A	–40 to +125	+3.0 to +3.6	Yes	No	N/A	Dual RPM-Based PWM Fan Spe
EMC2303	3	PWM	N/A	N/A	N/A	N/A	–40 to +125	+3.0 to +3.6	Yes	No	N/A	Triple RPM-Based PWM Fan Sp
EMC2305	5	PWM	N/A	N/A	N/A	N/A	–40 to +125	+3.0 to +3.6	Yes	No	N/A	Penta RPM-Based PWM Fan Sp

MOTOR DRIVERS

MOTOR DRIVERS: Stepper Motors, DC Motors and 3-Phase BLDC Motors									
Part #	**Motor Type**	**Input Voltage Range (V)**	**Internal/ External FETs**	**Output Current (mA)**	**Control Scheme**	**Motor Speed Output**	**Protections**	**Temperature Operating Range (°C)**	**Featur**
ATA6826C	DC Motor	7 to 40	Internal	1000	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +125	3 half bridge outputs, No shoc quiescent current <2 µA
ATA6831C	DC Motor	7 to 40	Internal	1000	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +125	3 half bridge outputs, No shoc quiescent current <2 µA, PWM
ATA6832C	DC Motor	7 to 40	Internal	1000	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +150	3 half bridge outputs, No shoc quiescent current <2 µA, PWM
ATA6836C	**DC Motor**	**7 to 40**	**Internal**	**650**	**SPI**	**N/A**	**Short Circuit, Overtemperature, Power Supply Fail**	**–40 to +125**	**6 half bridge outputs, No sh quiescent current <2 µA**
ATA6838C	DC Motor	7 to 40	Internal	950	SPI	N/A	Short Circuit, Overtemperature, Power Supply Fail	–40 to +125	6 half bridge outputs, No shoc quiescent current <2 µA
ATA6823C	DC Motor	7 to 20	External	100	PWM, DIR	N/A	Short Circuit, Overtemperature, Over/ Under Voltage, Chargepump Fail	–40 to +125	Dead time adjust, Charge pum battery reverse protection NM Watchdog, LIN TRX, Sleep mo
ATA6824C	DC Motor	7 to 20	External	100	PWM, DIR	N/A	Short Circuit, Overtemperature, Over/ Under Voltage, Chargepump Fail	–40 to +150	Dead time adjust, Charge pum battery reverse protection NM Window Watchdog, HV interfa
ATA6843	3-Phase Brushless Motor	5.5 to 32	External	100	Direct PWM	N/A	Short Circuit, Overtemperature, Over/ Under Voltage, Chargepump Fail	–40 to +125	Charge pump supply for exter protection NMOS, Dead time a Window Watchdog, LIN TRX,
ATA6844	3-Phase Brushless Motor	5.5 to 32	External	100	Direct PWM	N/A	Short Circuit, Overtemperature, Over/ Under Voltage, Chargepump Fail	–40 to +150	Charge pump supply for exter protection NMOS, Dead time a Window Watchdog, LIN TRX,
MCP8063	3-Phase Brushless Motor	2.0 to 14.0	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–40 to +125	3-Phase BLDC 180° Sinusoida Driver, Overcurrent Limitation, Frequency at 23 kHz
MTS62C19A	One Bipolar Stepper Motor or Two DC Motors	10.0 to 40.0	Internal	750	Direct PWM Input, Current Limit Control, Microstepping	No	Overtemperature, Under Voltage	–40 to +105	Dual Full-Bridge Motor Driver f compatible with Allegro 6219
MTS2916A	One Bipolar Stepper Motor or Two DC Motors	10.0 to 40.0	Internal	750	Direct PWM Input, Current Limit Control, Microstepping	No	Overtemperature, Under Voltage	–40 to +105	Dual Full-Bridge Motor Driver f compatible with Allegro 2916
MTD6501C	3-Phase Brushless Motor	2.0 to 14.0	Internal	800	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–30 to +95	3-Phase BLDC 180° Sinusoida Motor Driver, Overcurrent limit Frequency at 20 kHz
MTD6501D	3-Phase Brushless Motor	2.0 to 14.0	Internal	500	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–30 to +95	3-Phase BLDC 180° Sinusoida Driver, Boost Mode, Overcurre Switching Frequency at 20 kH
MTD6501G	3-Phase Brushless Motor	2.0 to 14.0	Internal	800	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–30 to +95	3-Phase BLDC 180° Sinusoida Motor Driver, Overcurrent limit Frequency at 23 kHz
MTD6502B	3-Phase Brushless Motor	2.0 to 5.5	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overtemperature, Motor Lock-up, Overcurrent, Overvoltage	–40 to +125	3-Phase BLDC Sinusoidal Sen Driver, Direction control, Overc Switching Frequency at 30 kH
MTD6508	3-Phase Brushless Motor	2.0 to 5.5	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overcurrent, Overvoltage, Overtemperature, Motor Lock-up	–40 to +125	180° Sinusoidal Sensorless Dr Programmable BEMF Coefficie Switching Frequency at 30 kH RPM and Slew Rate, Selectab Phase Target Regulation

MOTOR DRIVERS: Stepper Motors, DC Motors and 3-Phase BLDC Motors

Part #	Motor Type	Input Voltage Range (V)	Internal/ External FETs	Output Current (mA)	Control Scheme	Motor Speed Output	Protections	Temperature Operating Range (°C)	Featu
MTD6505	3-Phase Brushless Motor	2.0 to 5.5	Internal	750	Sensorless Sinusoidal	Frequency Generator	Overcurrent, Overvoltage, Overtemperature, Motor Lock-up	–40 to +125	180° Sinusoidal Sensorless Dr Programmable BEMF Coefficie Switching Frequency at 30 kH

POSITION SENSORS

POSITION SENSORS: Inductive Sensors

Part #	Calibration Segments	Sensor Offset Adjust	Origin Adjust (bits)	Output Interface	Output Resolution (bits)	Redundant IC support	# of ADCs	ADC Sampling Rate (samples/sec)	ADC for external sensor (bits)	MCU	Temperature Range (°C)	
LX3301A	6	Yes	12	Analog, PWM	12	Yes	2	2000	N/A	32-bit, 8 MHz	-40 to +125	AEC-Q100 Grade 1 in
LX3302A	8	Yes	12	Analog, PWM, SENT, PSI5, Sin/Cos	12	Yes	3	2000	10	32-bit, 8 MHz	-40 to +150	AEC-Q100 Grade 0 temperature sen

POWER MANAGEMENT

POWER MANAGEMENT: Voltage References

Part #	V_{IN} Max (V)	Output Voltage (V)	Max. Load Current (mA)	Initial Accuracy (max.%)	Temperature Coefficient (ppm/°C)	Maximum Supply Current (µA @ 25°C)	
MCP1501	5.5	1.024, 1.250, 1.8, 2.048, 2.5, 3.0, 3.3, 4.096	20	±0.08	50	350	8-pin 2 × 2 V
MCP1525	5.5	2.5	±2	±1	50	100	3-pin TO-92
MCP1541	5.5	4.096	±2	±1	50	100	3-pin TO-92
LM4040C	15	2.5, 4.096, 5.0	15	±0.5	100	65–85	3-pin SOT-2
LM4040D	15	2.5, 4.096, 5.0	15	±1	150	65–85	3-pin SOT-2
LM4041C	15	1.225, Adj. (1.24–10V)	12	±0.5	100	70	3-pin SOT-2
LM4041D	15	1.225, Adj. (1.24–10V)	12	±1	150	70	3-pin SOT-2
MIC40403	10	Adjustable	15	±1	–	70	8-pin SOT-1

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V_{IN} Min (V)	V_{IN} Max (V)	V_{OUT} (V)	Voltage Drop Typical (mV)	Iq Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MCP1811	150	1.8	5.5	1.2, 1.8, 2.8, 3.0, 3.3	400	250 nA	±2	50	Ultra-Low Iq
MCP1812	300	1.8	5.5	1.2, 1.8, 2.8, 3.0, 3.3	400	250 nA	±2	50	Ultra-Low Iq
MIC5231	10	3.5	12	2.75, 3.0, 3.3, 5.0	150	650 nA	±2	50	High Input Voltage, Small Packag
MIC5232	10	2.7	7	1.2, 2.5, 2.8, 3.3	100	1.8 uA	±2	55	7V input
MAQ5280	25	4.5	120	Adj.	1100	31 µA	±2	80	Ultra-High Input Voltage, Load Du
MIC5280	25	4.5	120	Adj.	1100	31 µA	±2	80	High Input Voltage, Load Dump, Protection
MIC5281	25	6	120	3.3, 5.0, Adj.	2000	6 µA	±3	90	High Input Voltage, Load Dump
MAQ5281	25	6	120	3.3, 5.0, Adj.	2000	6 µA	±3	90	High Input Voltage, Load Dump
MAQ5282	50	6	120	3.3, 5.0, Adj.	2000	6 µA	±3	90	High Input Voltage, High PSRR
MIC5282	50	6	120	3.3, 5.0, Adj.	2000	6 µA	±3	90	High Input Voltage, Load Dump
TC1014	50	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	85	50 µA	±0.5	64	Ultra Low Dropout
TC1054	50	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	85	50 µA	±0.5	64	Ultra Low Dropout
TC1070	50	2.7	6	1.23–5.5	85	50 µA	±0.5	64	Ultra Low Dropout
TC1072	50	2.7	6	2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	85	50 µA	±0.5	64	Ultra Low Dropout
TC1223	50	2.7	6	2.5, 2.7, 2.8, 3.0, 3.3, 3.6, 4.0, 5.0	85	50 µA	±0.5	64	Ultra Low Dropout
TC2014	50	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	45	50 µA	±0.4	55	Ultra Low Dropout
TC2054	50	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	45	55 µA	±0.4	50	Ultra Low Dropout

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V_{IN} Min (V)	V_{IN} Max (V)	V_{OUT} (V)	Voltage Drop Typical (mV)	Iq Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MCP1790	70	6	30	3.0, 3.3, 5.0	700	70 µA	±0.2	90	High Input
MCP1791	70	6	30	3.0, 3.3, 5.0	700	70 µA	±0.2	90	High Input
MIC5203	80	2.5	16	2.6, 2.8, 3.0, 3.3, 3.6, 3.8, 4.0, 4.5, 5.0	300	180 µA	±3	60	High Input Voltage, Small Packag
MIC5213	80	2.5	16	2.5, 2.6, 2.7, 2.8, 3.0, 3.3, 3.6, 5.0	280	180 µA	±3	60	High Input Voltage, Small Packag
TC1016	80	2.7	6	1.8, 2.7, 2.8, 3.0	150	53 µA	±0.5	58	Low Dropout
LP2951	100	2	30	4.8, 5.0, Adj.	380	100 µA	±0.5	70	High Input Voltage, High PSRR
MIC5200	100	2.5	26	3.0, 3.3, 4.8, 5.0	230	130 µA	±1	70	Low Dropout
MIC5233	100	2.3	36	1.8, 2.5, 3.0, 3.3, 5.0, Adj.	270	18 µA	±1	50	High Input Voltage, Reverse Batte Protection
MCP1792	**100**	**4.5**	**55**	**3.3, 5.0**	**250**	**25**	**2**	**70**	**AEC-Q100 Qualified and PPAP Automotive Grade 0**
MCP1793	**100**	**4.5**	**55**	**3.3, 5.0**	**250**	**25**	**2**	**70**	**AEC-Q100 Qualified and PPAP Automotive Grade 0**
MCP1799	**80**	**4.5**	**45**	**3.3, 5.0**	**300**	**50**	**2**	**70**	**AEC-Q100 Qualified and PPAP Automotive Grade 0**
MIC5253	100	2.7	5.5	1.5, 1.8, 1.85, 2.5, 2.6, 2.7, 2.8, 2.9, 3.0, 3.1, 3.2, 3.3	165	75 µA	±0.5	70	Low Dropout
MIC5270	100	–2	–16	(–)3.0, (–)4.1, (–)5.0, Adj.	500	35 µA	±2	50	Negative LDO
MIC5271	100	–3.3	–16	(–)3.0, (–)4.1, (–)5.0, Adj.	500	25 µA	±2	50	Negative LDO
TC1015	100	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	180	50 µA	±0.5	64	Low Dropout
TC1055	100	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	180	50 µA	±0.5	64	Low Dropout
TC1071	100	2.7	6	1.23–5.5	180	50 µA	±0.5	64	Low Dropout
TC1073	100	2.7	6	2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	180	50 µA	±0.5	64	Low Dropout
TC1224	100	2.7	6	2.5, 2.7, 2.8, 3.0, 3.3, 3.6, 4.0, 5.0	180	50 µA	±0.5	64	Low Dropout
TC2015	100	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	90	55 µA	±0.4	55	Low Dropout
TC2055	100	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	90	55 µA	±0.4	50	Low Dropout
TC59	100	–	–10	–8	380	3 µA	±0.5	50	Negative LDO
TC1188	120	2.7	6	1.8, 2.8, 2.84, 3.15	130	50 µA	±0.5	80	High PSRR
TC1189	120	2.7	6	1.8, 2.8, 2.84, 3.15	130	50 µA	±0.5	80	High PSRR
MCP1810	150	2.5	5.5	1.2, 1.8, 2.5, 3.0, 3.3, 4.2	380	0.02 µA	±1	25	Ultra Low I_Q
MAQ5283	150	6	120	3.3, 5.0, Adj.	1800	8 µA	±3	75	High Input Voltage, High PSRR
MIC2951	150	2	30	3.3, 5.0	320	120 µA	±1	67	Load Dump, Reverse Battery Pro
MIC5205	150	2.5	16	2.5, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3, 3.6, 3.8, 4.0, 5.0, Adj.	165	80 µA	±1	75	High Input Voltage, Small Packag
MIC5206	150	2.5	16	2.5, 2.7, 3.0, 3.2, 3.3, 3.6, 3.8, 4.0, 5.0, Adj.	165	1.3mA	±1	75	High Input Voltage, Small Packag
MIC5225	150	2.3	16	1.5, 1.8, 2.5, 2.7, 3.0, 3.3, 5.0, Adj.	310	29 µA	±0.5	35	High Input Voltage, Small Packag Current Protection
MIC5234	150	2.3	30	Adj.	320	20 µA	±1	–	High Input Voltage, Load Dump, and Current Protection
MIC5235	150	2.3	24	1.5, 1.8, 2.5, 2.7, 3.0, 3.3, 5.0, Adj.	310	18 µA	±1	35	High Input Voltage, Reverse Batte Protection
MIC5236	150	2.3	30	2.5, 3.0, 3.3, 5.0, Adj.	300	20 µA	±1	55	High Input Voltage, Load Dump, and Current Protection
MIC5238	150	1.5	6	1.0, 1.1, 1.3	310	23 µA	±5	50	Low Dropout
MIC5247	150	2.7	6	1.5, 1.6, 1.8, 1.85, 2.0, 2.1, 2.2, 2.4	150	85 µA	±1	60	Low Dropout
MIC5248	150	2.7	6	1.2	–	100 µA	±3	60	Low Dropout
MIC5252	150	2.7	6	1.8, 2.5, 2.8, 2.85, 3.0, 4.75	135	90 µA	±1	60	Low Dropout
MIC5255	150	2.7	6	2.5, 2.6, 2.7, 2.75, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3, 3.5	135	90 µA	±1	60	Low Dropout

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V_{IN} Min (V)	V_{IN} Max (V)	V_{OUT} (V)	Voltage Drop Typical (mV)	Iq Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MIC5256	150	2.7	6	1.5, 1.8, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.3	135	90 µA	±1	60	Low Dropout
MIC5258	150	2.7	6	1.2	–	85 µA	±3	–	Low Dropout
MIC5265	150	2.7	5.5	1.5, 1.8, 1.85, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3	210	75 µA	±2	64	Low Dropout
MIC5268	150	2.7	6	1.2	–	110 µA	±3	–	Low Dropout
MIC5283	150	6	120	3.3, 5.0, Adj.	1800	8 µA	±3	75	High Input Voltage, Load Dump
MIC5295	150	2.3	24	3.0, 3.3, 5.0, Adj.	310	18 µA	±1	50	Reverse Battery and Current Pro
MIC5301	150	2.3	5.5	1.3, 1.5, 1.8, 2.1, 2.5, 2.6, 2.8, 2.85, 2.9, 3.0, 3.3, 4.6, Adj.	40	85 µA	±2	75	Ultra Low Dropout
MIC5302	150	2.3	5.5	1.3, 1.5, 1.8, 2.1, 2.5, 2.6, 2.8, 2.85, 2.9, 3.0, 3.3, 4.6	50	85 µA	±2	65	Ultra Low Dropout
MIC5304	150	2.3	5.5	3.15/1.85, 3.15/1.875, 3.2/1.8	85	24 µA	±0.5	65	Ultra Low Dropout
MIC5305	150	2.25	5.5	1.5, 1.8, 2.0, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3, 4.6, 4.75, Adj.	60	90 µA	±1	85	Ultra Low Dropout
MIC5306	150	2.25	5.5	1.8, 2.5, 2.6	45	16 µA	±1	62	Ultra Low Dropout
MIC5308	150	1.6	5.5	1.2, 1.5, 1.8, Adj.	45	23 µA	±2	90	Ultra Low Dropout, Ultra High PS
MIC5317	150	2.5	6	1.0, 1.2, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3	155	32 µA	±2	80	High PSRR
MIC5365	150	2.5	5.5	1.5, 1.8, 2.0, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3	155	32 µA	±2	80	High PSRR
MIC5366	150	2.5	5.5	1.5, 1.8, 2.0, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3	155	32 µA	±2	80	High PSRR
MIC5376	150	2.5	5.5	2.8	120	29 µA	±2	60	Low Dropout
MIC5377	150	2.5	5.5	Adj.	120	29 µA	±2	60	Low Dropout
MIC5378	150	2.5	5.5	Adj.	120	29 µA	±2	60	Low Dropout
MCP1711	150	1.4	6	1.1–5.0	670	0.6 µA	±1	–	Ultra Low I_Q, Capless
MCP1754	150	3.6	16	1.8–5.0	300	56 µA	±0.4	72	High Performance
MCP1754S	150	3.6	16	1.8–5.0	300	56 µA	±0.2	72	High Performance
MCP1804	150	2	28	1.8–18	300	50 µA	±2	50	High Input
TC1017	150	2.7	6	1.8, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3, 4.0	285	53 µA	±0.5	58	Low Dropout
TC1185	150	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	270	50 µA	±0.5	64	Low Dropout
TC1186	150	2.7	6	1.8, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3, 3.6, 4.0, 5.0	270	50 µA	±0.5	64	Low Dropout
TC1187	150	2.7	6	1.23–5.5	270	50 µA	±0.5	64	Low Dropout
TC2185	150	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	140	55 µA	±0.4	55	High Accuracy
TC2186	150	2.7	6	1.8, 2.7, 2.8, 3.0, 3.3	140	55 µA	±0.4	50	High Accuracy
MIC5207	180	2.5	16	1.8, 2.5, 2.8, 2.9, 3.0, 3.1, 3.2, 3.3, 4.0, 5.0, Adj.	165	80 µA	±3	75	High Input Voltage, Small Packag
MIC5201	200	2.5	26	3.0, 3.3, 4.8, 5.0, Adj.	270	130 µA	±2	75	Low Dropout
MIC5367	200	2.5	5.5	1.2, 1.5, 3.3	180	29 µA	±2	65	Low Dropout
MIC5368	200	2.5	5.5	1.2, 1.5, 3.3	180	29 µA	±1	65	Low Dropout
MIC94300	200	1.8	3.6	Input Follower	170	138 µA	–	0	RippleBlocker
MIC94310	200	1.8	3.6	1.2, 1.5, 1.8, 1.85, 2.5, 2.7, 2.8, 2.85, 3.0, 3.3	40	170 µA	±1	85	RippleBlocker
MIC2954	250	2	30	5.0, Adj.	375	140 µA	±1	–	Load Dump

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V_{IN} Min (V)	V_{IN} Max (V)	V_{OUT} (V)	Voltage Drop Typical (mV)	Iq Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MCP1700	250	2.3	6	1.8, 2.5, 3.0, 3.3, 5.0	300	1.6 µA	±0.4	44	Low I_Q
MCP1702	250	2.7	13.2	1.2, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3, 4.0, 5.0	625	2 µA	±0.4	44	Low I_Q
MCP1703A	250	2.7	16	1.2–5.5	625	2 µA	±0.4	35	High Input, Low I_Q
MAQ5300	300	2.3	5.5	1.5, 1.8, 2.5, 2.8, 2.85, 3.0, 3.3	100	85 µA	±2	65	Low Dropout
MIC5249	300	2.7	6	1.5, 1.8, 2.5, 2.8, 2.85, 3.0, 3.3	340	85 µA	±1	65	High PSRR
MIC5259	300	2.7	6	1.5, 1.8, 2.1, 2.5, 2.8, 2.85, 3.0, 3.3	300	105 µA	±0.5	70	Low Dropout
MIC5303	300	2.3	5.5	1.5, 1.8, 2.1, 2.5, 2.6, 2.8, 2.85, 2.9, 3.0, 3.3	100	85 µA	±2	65	Ultra Low Dropout
MIC5307	300	2.4	5.5	1.5, 1.8, 2.8, 3.0	120	20 µA	±1	62	Low Dropout
MIC5309	300	1.7	5.5	1.2, 1.5, 1.8, Adj.	100	23 µA	±2	90	Ultra High PSRR
MIC5318	300	2.3	6	1.5, 1.8, 2.5, 2.8, 3.3, Adj.	110	85 µA	±2	75	High PSRR
MIC5323	300	2.65	5.5	1.8, 2.8, 3.3, Adj.	120	90 µA	±2	80	High PSRR
MIC5327	300	2.3	5.5	1.8, 2.8	180	24 µA	±0.5	60	High PSRR
MIC5337	300	2.3	5.5	1.8, 2.8	180	24 µA	±0.5	65	High PSRR
MIC5353	300	2.6	6	1.8, 2.5, 2.6, 2.8, 3.0, 3.3, Adj.	160	90 µA	±2	60	Low Dropout
MIC5363	300	2.5	5.5	1.2, 2.1, 2.8, 3.3	225	38 µA	±2	80	High PSRR
MIC5364	300	2.5	5.5	1.2, 2.1, 2.8, 3.3	225	38 µA	±2	80	High PSRR
MIC5501	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	160	38 µA	±2	60	Low Dropout
MIC5502	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	160	38 µA	±2	60	Low Dropout
MIC5503	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	160	38 µA	±2	60	Low Dropout
MIC5504	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.1, 3.3	160	38 µA	±2	60	Low Dropout
MIC5512	300	2.5	5.5	1.2, 1.8, 2.8, 3.3	160	38 µA	±2	65	Low Dropout
MIC5514	300	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	160	38 µA	±2	65	Low Dropout
MCP1755	300	3.6	16	1.8–5.5	300	68 µA	±0.85	80	High Input, Low Dropout
MCP1755S	300	3.6	16	1.8–5.5	300	68 µA	±0.85	80	Low Dropout
MCP1824	300	2.1	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	200	120 µA	±0.4	55	High Accuracy
MCP1824S	300	2.1	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	200	120 µA	±0.4	55	High Accuracy
TC1107	300	2.7	6	2.5, 2.7, 2.8, 3.0, 3.3, 5.0	240	50 µA	±0.5	60	Low Dropout
TC1108	300	2.7	6	2.5, 2.7, 2.8, 3.0, 3.3, 5.0	240	50 µA	±0.5	60	Low Dropout
TC1173	300	2.7	6	3.3, 5.0, 2.5, 2.7, 2.8, 3.0	240	50 µA	±0.5	60	Low Dropout
TC1174	300	2.7	6	1.23–5.5	270	50 µA	±0.5	60	Low Dropout
TC1269	300	2.7	6	2.5, 2.8, 3.0, 3.3, 5.0	240	50 µA	±0.5	50	Low Dropout
TC1300	300	2.7	6	2.5, 2.7, 2.8, 2.85, 3.0, 3.3	210	80 µA	±0.5	60	Low Dropout
MIC29201	400	2	26	3.3, 4.8, 5.0, 12	400	140 µA	±1	70	Load Dump, Reverse Battery Pro
MIC29202	400	2	26	Adj.	400	140 µA	±1	70	Load Dump, Reverse Battery Pro
MIC29204	400	2	26	5.0, Adj.	400	140 µA	±1	70	Load Dump, Reverse Battery Pro
MIC2920A	400	2	26	3.3, 4.8, 5.0, 12	400	140 µA	±1	70	Load Dump, Reverse Battery Pro
MIC5325	400	1.7	5.5	1.2, 1.5, 1.8, 3.3, 3.6	110	35 µA	±2	65	Low Noise
MIC47050	500	1	3.6	1.2, 1.8, Adj.	44	6 µA	±0.5	50	Ultra Low Dropout
MIC47053	500	1	3.6	Adj.	44	6 µA	±2	55	Ultra Low Dropout
MIC5209	500	2.5	16	1.8, 2.5, 3.0, 3.3, 3.6, 4.2, 5.0, Adj.	350	8 mA	±1	75	High Input Voltage, Small Packag
MIC5216	500	2.5	12	2.5, 3.3, 3.6, 5.0	300	8 mA	±1	75	High Input Voltage, Small Packag
MIC5219	500	2.5	12	2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.3, 3.6, 5.0, Adj.	350	12 mA	±1	75	High Input Voltage, Small Packag

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V_{IN} Min (V)	V_{IN} Max (V)	V_{OUT} (V)	Voltage Drop Typical (mV)	Iq Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MIC5237	500	2.5	16	2.5, 3.3, 5.0	300	8 mA	±3	75	High Input Voltage, Reverse Batt
MIC5239	500	2.3	30	1.5, 1.8, 2.5, 3.0, 3.3, 5.0, Adj.	350	23 µA	±1	50	Reverse Battery and Current Pro
MIC5319	500	2.5	5.5	1.375, 1.8, 1.85, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3, 5.0, Adj.	200	90 µA	±1	70	High PSRR
MIC5524	500	2.5	5.5	1.2, 1.8, 2.8, 3.0, 3.3	260	38 µA	±2	65	Low Noise
MIC5528	500	2.5	5.5	3.3	260	38 µA	±2	70	Low Dropout
MIC94305	500	1.8	3.6	Input Follower	170	150 µA	–	0	RippleBlocker
MIC94325	500	1.8	3.6	Adj.	100	170 µA	±1	85	RippleBlocker
MIC94345	500	1.8	3.6	1.2, 1.5, 1.8, 2.8, 3.3	100	170 µA	±1	85	RippleBlocker
MIC94355	500	1.8	3.6	1.2, 1.5, 1.8, 2.8, 3.3	100	170 µA	±1	85	RippleBlocker
MCP1725	500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	210	120 µA	±0.5	60	Low Dropout
MCP1825	500	2.1	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	210	120 µA	±0.5	60	Low Dropout
MCP1825S	500	2.1	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	300	120 µA	±0.5	60	Low Dropout
TC1262	500	2.7	6	2.5, 2.8, 3.0, 3.3, 5.0	350	80 µA	±0.5	64	Low Dropout
TC1263	500	2.7	6	2.5, 2.8, 3.0, 3.3, 5.0	350	80 µA	±0.5	64	Low Dropout
MIC29371	750	4.3	26	3.3, 5.0, 12	370	160 µA	±1	–	Load Dump, Reverse Current Pro
MIC29372	750	4.3	26	Adj.	370	160 µA	±1	–	Load Dump, Reverse Current Pro
MIC2937A	750	4.3	26	3.3, 5.0, 12	370	160 µA	±1	–	Load Dump, Reverse Current Pro
MIC3775	750	2.25	6	1.5, 1.65, 1.8, 2.5, 3.0, 3.3, Adj.	280	6.5 mA	±1	60	Reverse Current Protection
MIC3975	750	2.25	16	1.65, 1.8, 2.5, 3.0, 3.3, 5.0, Adj.	300	7.5 mA	±1	55	Reverse Current Protection
TC1264	800	2.7	6	1.8, 2.5, 3.0, 3.3	450	80 µA	±0.5	64	Low Dropout
TC1265	800	2.7	6	1.8, 2.5, 3.0, 3.3	450	80 µA	±0.5	64	Low Dropout
TC2117	800	2.7	6	1.8, 2.5, 3.0, 3.3	600	80 µA	±0.5	55	Low Dropout
MIC37100	1000	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	280	400 µA	±1	50	Reverse Battery and Current Pro
MIC37101	1000	2.25	6	1.5, 1.65, 1.8, 2.1, 2.5, 3.3	280	400 µA	±1	50	Reverse Battery and Current Pro
MIC37102	1000	2.25	6	Adj	280	400 µA	±1	50	Reverse Battery and Current Pro
MIC39100	1000	2.25	16	1.8, 2.5, 3.3, 5.0	410	6.5 mA	±1	55	Reverse Battery and Current Pro
MIC39101	1000	2.25	16	1.8, 2.5, 3.3, 5.0	410	6.5 mA	±1	55	Reverse Battery and Current Pro
MIC39102	1000	2.25	16	Adj.	410	6.5 mA	±1	55	Reverse Battery and Current Pro
MIC47100	1000	1	3.6	0.8, 1.0, 1.2, Adj.	80	350 µA	±0.5	80	Ultra Low Dropout
MIC69101	1000	1.65	5.5	1.8	215	11 mA	±2	55	Low Dropout
MIC69103	1000	1.65	5.5	Adj.	215	11 mA	±2	55	Low Dropout
MCP1726	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.3, 5.0	500	130 µA	±0.5	54	Low Dropout
MCP1826	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	225	120 µA	±0.5	60	Low Dropout
MCP1826S	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	225	120 µA	±0.5	60	Low Dropout
MIC2940A	1250	2	26	3.3, 5.0, 12	400	35 mA	±1	–	Load Dump, Reverse Current Pro
MIC2941A	1250	2	26	Adj.	400	35 mA	±1	–	Load Dump, Reverse Current Pro
MIC29150	1500	2.25	26	3.3, 5.0, 12	350	22 mA	±1	–	Load Dump, Reverse Current Pro
MIC29151	1500	2.25	26	3.3, 5.0, 12	350	22 mA	±1	–	Load Dump, Reverse Current Pro

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V_{IN} Min (V)	V_{IN} Max (V)	V_{OUT} (V)	Voltage Drop Typical (mV)	Iq Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MIC29152	1500	2.25	26	Adj.	350	22 mA	±1	–	Load Dump, Reverse Current Pro
MIC37139	1500	2.25	6	1.8, 2.5	500	17 mA	±1	50	Reverse Battery and Current Prot
MIC37150	1500	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	325	17 mA	±1	45	Reverse Battery and Current Prot
MIC37151	1500	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	325	17 mA	±1	45	Reverse Battery and Current Prot
MIC37152	1500	2.25	6	Adj.	325	17 mA	±1	45	Reverse Battery and Current Prot
MIC37153	1500	2.25	6	Adj.	325	17 mA	±1	45	Reverse Battery and Current Prot
MIC39150	1500	2.25	16	1.65, 1.8, 2.5	375	17 mA	±1	53	Reverse Battery and Current Prot
MIC39151	1500	2.25	16	1.65, 1.8, 2.5	375	17 mA	±1	53	Reverse Battery and Current Prot
MIC39152	1500	2.25	16	Adj.	375	17 mA	±1	53	Reverse Battery and Current Prot
MIC47150	1500	1.4	6.5	Adj.	280	15 mA	±1	55	Low Dropout
MIC49150	1500	1.4	6.5	0.9, 1.2, 1.5, 1.8, Adj.	280	15 mA	±1	57	Low Dropout
MIC59150	1500	1	3.8	Adj.	100	12.5 mA	±1	60	Ultra Low Dropout
MIC61150	1500	1.1	3.6	1.0, Adj.	75	7.6 mA	±1	50	Ultra Low Dropout, Soft Start
MCP1727	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 µA	±0.5	60	Low Dropout
MCP1827	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 µA	±0.5	60	Low Dropout
MCP1827S	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 µA	±0.5	60	Low Dropout
MIC49200	2000	1.4	6.5	1.0, 1.8, Adj.	400	15 mA	±1	83	Low Dropout
MIC68200	2000	1.65	5.5	1.2, 1.5, 1.8, 2.5, 3.3, Adj	300	42 mA	±1	60	Low Dropout, Soft Start
MIC37252	2500	3	6	Adj.	550	40 mA	±2	50	Reverse Current Protection
MIC2937A	750	4.3	26	3.3, 5.0, 12	370	160 µA	±1	–	Load Dump, Reverse Current Pro
MIC3775	750	2.25	6	1.5, 1.65, 1.8, 2.5, 3.0, 3.3, Adj.	280	6.5 mA	±1	60	Reverse Current Protection
MIC3975	750	2.25	16	1.65, 1.8, 2.5, 3.0, 3.3, 5.0, Adj.	300	7.5 mA	±1	55	Reverse Current Protection
TC1264	800	2.7	6	1.8, 2.5, 3.0, 3.3	450	80 µA	±0.5	64	Low Dropout
TC1265	800	2.7	6	1.8, 2.5, 3.0, 3.3	450	80 µA	±0.5	64	Low Dropout
TC2117	800	2.7	6	1.8, 2.5, 3.0, 3.3	600	80 µA	±0.5	55	Low Dropout
MIC37100	1000	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	280	400 µA	±1	50	Reverse Battery and Current Prot
MIC37101	1000	2.25	6	1.5, 1.65, 1.8, 2.1, 2.5, 3.3	280	400 µA	±1	50	Reverse Battery and Current Prot
MIC37102	1000	2.25	6	Adj	280	400 µA	±1	50	Reverse Battery and Current Prot
MIC39100	1000	2.25	16	1.8, 2.5, 3.3, 5.0	410	6.5 mA	±1	55	Reverse Battery and Current Prot
MIC39101	1000	2.25	16	1.8, 2.5, 3.3, 5.0	410	6.5 mA	±1	55	Reverse Battery and Current Prot
MIC39102	1000	2.25	16	Adj.	410	6.5 mA	±1	55	Reverse Battery and Current Prot
MIC47100	1000	1	3.6	0.8, 1.0, 1.2, Adj.	80	350 µA	±0.5	80	Ultra Low Dropout
MIC69101	1000	1.65	5.5	1.8	215	11 mA	±2	55	Low Dropout
MIC69103	1000	1.65	5.5	Adj.	215	11 mA	±2	55	Low Dropout
MCP1726	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.3, 5.0	500	130 µA	±0.5	54	Low Dropout
MCP1826	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	225	120 µA	±0.5	60	Low Dropout
MCP1826S	1000	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	225	120 µA	±0.5	60	Low Dropout
MIC2940A	1250	2	26	3.3, 5.0, 12	400	35 mA	±1	–	Load Dump, Reverse Current Pro
MIC2941A	1250	2	26	Adj.	400	35 mA	±1	–	Load Dump, Reverse Current Pro

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V_{IN} Min (V)	V_{IN} Max (V)	V_{OUT} (V)	Voltage Drop Typical (mV)	Iq Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MIC29150	1500	2.25	26	3.3, 5.0, 12	350	22 mA	±1	–	Load Dump, Reverse Current Pro
MIC29151	1500	2.25	26	3.3, 5.0, 12	350	22 mA	±1	–	Load Dump, Reverse Current Pro
MIC29152	1500	2.25	26	Adj.	350	22 mA	±1	–	Load Dump, Reverse Current Pro
MIC37139	1500	2.25	6	1.8, 2.5	500	17 mA	±1	50	Reverse Battery and Current Prot
MIC37150	1500	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	325	17 mA	±1	45	Reverse Battery and Current Prot
MIC37151	1500	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	325	17 mA	±1	45	Reverse Battery and Current Prot
MIC37152	1500	2.25	6	Adj.	325	17 mA	±1	45	Reverse Battery and Current Prot
MIC37153	1500	2.25	6	Adj.	325	17 mA	±1	45	Reverse Battery and Current Prot
MIC39150	1500	2.25	16	1.65, 1.8, 2.5	375	17 mA	±1	53	Reverse Battery and Current Prot
MIC39151	1500	2.25	16	1.65, 1.8, 2.5	375	17 mA	±1	53	Reverse Battery and Current Prot
MIC39152	1500	2.25	16	Adj.	375	17 mA	±1	53	Reverse Battery and Current Prot
MIC47150	1500	1.4	6.5	Adj.	280	15 mA	±1	55	Low Dropout
MIC49150	1500	1.4	6.5	0.9, 1.2, 1.5, 1.8, Adj.	280	15 mA	±1	57	Low Dropout
MIC59150	1500	1	3.8	Adj.	100	12.5 mA	±1	60	Ultra Low Dropout
MIC61150	1500	1.1	3.6	1.0, Adj.	75	7.6 mA	±1	50	Ultra Low Dropout, Soft Start
MCP1727	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 µA	±0.5	60	Low Dropout
MCP1827	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 µA	±0.5	60	Low Dropout
MCP1827S	1500	2.3	6	0.8, 1.2, 1.8, 2.5, 3.0, 3.3, 5.0	330	120 µA	±0.5	60	Low Dropout
MIC49200	2000	1.4	6.5	1.0, 1.8, Adj.	400	15 mA	±1	83	Low Dropout
MIC68200	2000	1.65	5.5	1.2, 1.5, 1.8, 2.5, 3.3, Adj	300	42 mA	±1	60	Low Dropout, Soft Start
MIC37252	2500	3	6	Adj.	550	40 mA	±2	50	Reverse Current Protection
MIC29300	3000	2.25	26	3.3, 5.0, 12	370	37 mA	±1	–	Load Dump, Reverse Current Pro
MIC29301	3000	2.25	26	3.3, 5.0, 12	370	37 mA	±1	–	Load Dump, Reverse Current Pro
MIC29302	3000	2.25	26	Adj.	370	37 mA	±1	–	Load Dump, Reverse Current Pro
MIC29302A	3000	3	16	Adj.	450	60 mA	±1	–	Reverse Battery and Current Prot
MIC29302H	3000	2.25	26	Adj.	370	37 mA	±1	–	Load Dump, Reverse Current Pro
MIC29303	3000	2.25	26	Adj.	370	37 mA	±1	–	Load Dump, Reverse Current Pro
MIC29310	3000	2.3	16	3.3, 5.0	600	60 mA	±1	–	Load Dump, Reverse Current Pro
MIC29312	3000	2.3	16	Adj.	600	60 mA	±1	–	Load Dump, Reverse Current Pro
MIC35302	3000	2.25	6	Adj.	370	20 mA	±1	50	Reverse Battery and Current Prot
MIC37300	3000	2.25	6	1.5, 1.65, 1.8, 2.5, 3.3	300	27 mA	±1	50	Reverse Current Protection
MIC37301	3000	2.25	6	1.5, 1.8, 2.5, 3.3	300	27 mA	±1	50	Reverse Current Protection
MIC37302	3000	2.25	6	Adj.	300	27 mA	±1	50	Reverse Current Protection
MIC37303	3000	2.25	6	Adj.	300	27 mA	±1	50	Reverse Current Protection
MIC39300	3000	2.25	16	1.8, 2.5	385	45 mA	±1	–	Reverse Battery and Current Prot
MIC39301	3000	2.25	16	1.8, 2.5	385	45 mA	±1	–	Reverse Battery and Current Prot
MIC39302	3000	2.25	16	Adj.	385	45 mA	±1	–	Reverse Battery and Current Prot
MIC47300	3000	1.4	6.5	Adj.	230	25 mA	±1	–	Low Dropout
MIC49300	3000	1.4	6.5	0.9, 1.2, 1.5, 1.8, Adj.	280	25 mA	±1	–	Low Dropout
MIC59300	3000	1	3.8	1.2V, Adj.	205	30 mA	±1	65	Low Dropout
MIC61300	3000	1.1	3.6	1.0, Adj.	150	7.6 mA	±1	55	Low Dropout, Soft Start

POWER MANAGEMENT: Single Output Linear Regulators

Part #	Output Current (mA)	V_{IN} Min (V)	V_{IN} Max (V)	V_{OUT} (V)	Voltage Drop Typical (mV)	Iq Typical (µA)	Output Accuracy (%)	PSRR 1 kHz (dB)	Features
MIC69301	3000	1.65	5.5	1.2	275	32 mA	±2	55	Low Dropout
MIC69302	3000	1.65	5.5	Adj.	275	32 mA	±2	55	Low Dropout
MIC69303	3000	1.65	5.5	Adj.	275	32 mA	±2	55	High Current
MIC68400	4000	1.65	5.5	1.8, Adj.	360	90 mA	±2	50	Low Dropout, Soft Start
MIC68401	4000	1.65	5.5	Adj.	360	90 mA	±2	50	Low Dropout, Soft Start
MIC29500	5000	2.25	26	3.3, 5.0, 12	370	70 mA	±1	–	Load Dump, Reverse Current Pro
MIC29501	5000	2.25	26	3.3, 5.0, 12	370	70 mA	±1	–	Load Dump, Reverse Current Pro
MIC29502	5000	2.25	26	Adj.	370	70 mA	±1	–	Load Dump, Reverse Current Pro
MIC29503	5000	2.25	26	Adj.	370	70 mA	±1	–	Load Dump, Reverse Current Pro
MIC29510	5000	2.3	16	3.3, 5.0	700	100 mA	±1	–	Load Dump, Reverse Current Pro
MIC29512	5000	2.3	16	Adj.	700	100 mA	±1	–	Load Dump, Reverse Current Pro
MIC37501	5000	2.3	6	1.5, 1.65, 1.8, 2.5, 3.3	330	57 mA	±1	–	Reverse Current Protection
MIC37502	5000	2.3	6	Adj.	330	57 mA	±1	–	Reverse Current Protection
MIC39500	5000	2.25	16	1.8, 2.5	400	70 mA	±1	30	Reverse Battery and Current Pro
MIC39501	5000	2.25	16	1.8, 2.5	400	70 mA	±1	30	Reverse Battery and Current Pro
MIC49500	5000	1.4	6	0.9, 1.2, Adj.	290	55 mA	±1	75	Low Dropout
MIC69502	5000	1.65	5.5	Adj.	250	54 mA	±1	52	High Current
MIC29712	7500	2.3	16	Adj.	700	250 mA	±2	–	High Current
MIC29751	7500	2.5	26	3.3, 5.0	425	120 mA	±1	–	Load Dump, Reverse Current Pro
MIC29752	7500	2.5	26	Adj.	425	120 mA	±1	–	Load Dump, Reverse Current Pro

POWER MANAGEMENT: Multiple Output Linear Regulators

Part #	Product Type	I_{OUT} #1	I_{OUT} #2	I_{OUT} #3	I_{OUT} #4	V_{IN} Min. (V)	V_{IN} Max. (V)	V_{OUT} (V)	Voltage Drop Typ. (mV)	IGND Typ. (µA)	PSRR (dB
MIC2210	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 µA	6
MIC2211	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 µA	6
MIC2212	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 µA	6
MIC2213	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 µA	6
MIC2214	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120/140	48/60 µA	6
MIC2215	Multi-Channel LDOs	250 mA	250 mA	250 mA	–	2.25	5.5	Please Refer to Datasheet	100	110 µA	7
MIC2219	Dual LDOs	150 mA	300 mA	–	–	2.25	5.5	Please Refer to Datasheet	120	48 µA	6
MIC5202	Dual LDOs	100 mA	100 mA	–	–	2.5	26	Please Refer to Datasheet	225	170 µA	7
MIC5208	Dual LDOs	50 mA	50 mA	–	–	2.5	16	Please Refer to Datasheet	250	180 µA	–
MIC5210	Dual LDOs	150 mA	150 mA	–	–	2.5	16	Please Refer to Datasheet	165	80 µA	7
MIC5211	Dual LDOs	80 mA	80 mA	–	–	2.5	16	Please Refer to Datasheet	250	90 µA	6
MIC5212	Dual LDOs	500 mA	500 mA	–	–	4	16	Please Refer to Datasheet	350	1.5mA	7
MIC5264	Dual LDOs	150 mA	150 mA	–	–	2.7	5.5	Please Refer to Datasheet	210	75 µA	6
MIC5310	Dual LDOs	150 mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	35	85 µA	7
MIC5311	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	120	28 µA	6
MIC5312	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	120	28 µA	6
MIC5315	Dual LDOs	300 mA	300 mA	–	–	1.7	5.5	Please Refer to Datasheet	85	30 µA	6

POWER MANAGEMENT: Multiple Output Linear Regulators

Part #	Product Type	I_{OUT} #1	I_{OUT} #2	I_{OUT} #3	I_{OUT} #4	V_{IN} Min. (V)	V_{IN} Max. (V)	V_{OUT} (V)	Voltage Drop Typ. (mV)	IGND Typ. (µA)	PSRR (dB
MIC5316	Dual LDOs	300 mA	300 mA	–	–	1.7	5.5	Please Refer to Datasheet	85	30 µA	6
MIC5320	Dual LDOs	150 mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	35	85 µA	6
MIC5321	Dual LDOs	150 mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	35	85 µA	7
MIC5322	Dual LDOs	150 mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	35	150 µA	7
MIC5330	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	75	85 µA	7
MIC5331	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	120	40 µA	6
MIC5332	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	120	40 µA	6
MIC5333	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	120	40 µA	6
MIC5335	Dual LDOs	300 mA	300 mA	–	–	2.3	5.5	Please Refer to Datasheet	75	90 µA	6
MIC5338	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	220	38 µA	5
MIC5339	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	220	38 µA	5
MIC5350	Dual LDOs	300 mA	500 mA	–	–	2.6	5.5	Please Refer to Datasheet	75/125	95 µA	5
MIC5355	Dual LDOs	500mA	500 mA	–	–	2.5	5.5	Please Refer to Datasheet	350	38 µA	5
MIC5356	Dual LDOs	500mA	500 mA	–	–	2.5	5.5	Please Refer to Datasheet	350	38 µA	5
MIC5357	Dual LDOs	500mA	500 mA	–	–	2.6	5.5	Please Refer to Datasheet	130	95 µA	7
MIC5370	Dual LDOs	150mA	150 mA	–	–	2.3	5.5	Please Refer to Datasheet	155	32 µA	6
MIC5371	Dual LDOs	150mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	32 µA	6
MIC5373	Multi-Channel LDOs	200mA	200 mA	200 mA	–	1.7	5.5	Please Refer to Datasheet	170	32 µA	5
MIC5374	Multi-Channel LDOs	200 mA	200 mA	200 mA	1 mA	1.7	5.5	Please Refer to Datasheet	170	42 µA	5
MIC5380	Dual LDOs	150 mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	32 µA	6
MIC5381	Dual LDOs	150 mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	32 µA	6
MIC5383	Multi-Channel LDOs	200 mA	200 mA	200 mA	–	1.7	5.5	Please Refer to Datasheet	170	32 µA	5
MIC5384	Multi-Channel LDOs	200 mA	200 mA	200 mA	1 mA	1.7	5.5	Please Refer to Datasheet	170	42 µA	5
MIC5385	Multi-Channel LDOs	150 mA	150 mA	150 mA	–	2.5	5.5	Please Refer to Datasheet	180	32 µA	7
MIC5387	Multi-Channel LDOs	150 mA	150 mA	150 mA	–	2.5	5.5	Please Refer to Datasheet	180	32 µA	7
MIC5388	Dual LDOs	200 mA	200 mA	–	–	2.5	5.5	Please Refer to Datasheet	175	32 µA	7
MIC5389	Dual LDOs	200 mA	200 mA	–	–	2.5	5.5	Please Refer to Datasheet	175	32 µA	7
MIC5392	Dual LDOs	150 mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	57 µA	6
MIC5393	Dual LDOs	150 mA	150 mA	–	–	2.5	5.5	Please Refer to Datasheet	155	57 µA	6
MIC5396	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	160	37 µA	6
MIC5397	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	160	37 µA	6
MIC5398	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	160	37 µA	6
MIC5399	Dual LDOs	300 mA	300 mA	–	–	2.5	5.5	Please Refer to Datasheet	160	37 µA	6
MIC68220	Dual LDOs	2.0A	2.0A	–	–	1.65	5.5	Please Refer to Datasheet	300	15 mA	4
TC1307	Multi-Channel LDOs	150 mA	150 mA	150 mA	150 mA	2.7	6	Please Refer to Datasheet	200	220 µA	6
TC1301A	Dual LDOs	300 mA	150 mA	–	–	2.7	6	Please Refer to Datasheet	104	103 µA	5
TC1301B	Dual LDOs	300 mA	150 mA	–	–	2.7	6	Please Refer to Datasheet	104	114 µA	5
TC1302A	Dual LDOs	300 mA	150 mA	–	–	2.7	6	Please Refer to Datasheet	104	103 µA	5
TC1302B	Dual LDOs	300 mA	150 mA	–	–	2.7	6	Please Refer to Datasheet	104	114 µA	5

POWER MANAGEMENT: Linear Regulators – LDO Controller and SIM Card

Part #	Product Type	V_{IN} Min. (V)	V_{IN} Max. (V)	V_{OUT} (V)	IGND Typ. (µA)	V_{REF} (V)	V_{EN} (V)	Internal Charge Pump	Extern MO
MIC5156	LDO Controllers	3	36	3.3, 5.0, Adj.	2.7	1.235	2.4	–	Y
MIC5157	LDO Controllers	3	36	3.3, 5.0, 12	4.5	1.235	2.4	Yes	Y
MIC5158	LDO Controllers	3	36	5.0, Adj.	4.5	1.235	2.4	Yes	Y
MIC5159	LDO Controllers	1.65	5.5	1.8, 3.0, Adj.	10	1.235	1.2	–	Y
MIC5190	LDO Controllers	0.9	5.5	Adj. down to 0.5V	15	0.5	0.8	–	Y
MIC5191	LDO Controllers	1	5.5	Adj. down to 1.0V	15	1	0.8	–	Y
MIC4555	SIM Card Lvl Shifter with 50 mA LDO	2.7	5.5	1.8, 3.3	41/79	–	–	–	

POWER MANAGEMENT: DDR Termination Regulators

Part #	I_{OUT}	V_{IN} Min. (V)	V_{IN} Max. (V)	V_{OUT} (V)	PWR Good	VTT Accuracy	External Transistor	Sync Buck	Frequency	Features
MIC5162	±7A	1.35	6	1/2 of V_{IN}	–	±5 mV	✓	–	–	
MIC5163	±7A	0.75	6	1/2 of V_{IN}	–	±5 mV	✓	–	–	Low Voltage
MIC5164	±7A	1.35	6	1/2 of V_{IN}	✓	±5 mV	✓	–	–	
MIC5165	±7A	0.75	6	1/2 of V_{IN}	✓	±5 mV	✓	–	–	Low Voltage
MIC5166	±3A	0.9	3.6	1/2 of V_{IN}	✓	±25 mV	–	–	–	DDR 1, 2, 3, 4
MIC5167	±6A	2.6	5.5	Adj. down to 0.35V	✓	±12 mV	–	✓	1 MHz	Integrated Sync Buck

POWER MANAGEMENT: High-Voltage Linear Regulators

Part #	Input to Output Voltage Differential (Min.)	Input to Output Voltage Differential (Max.)	Output Voltage (V)	Max Output Current (mA)	Typical Line Regulation (%/V)	Typical Load Regulation (%/mA)	
LR8	12	450	1.2–440	10	0.003	0.15	3-Lead TO-252, 3-Lead
LR12	12	100	1.2–88	50	0.003	0.06	3-Lead TO-252, 8-Lead
LR645	15	450	10	3	0.0001	0.50	8-Lead SOIC, 3-Lead T
LR745	25	450	20	2	0.0001	0.50	3-Lead TO-92, 3-Lead S

POWER MANAGEMENT: Single Output Switching Regulators (Buck)

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Junction Temperature Range (°C)	Switching Frequency (kHz)	Output Current (mA)	Features
MIC28517	4.5V- 70V	0.6V to 32	-40 to 125	270 to 800	8000	CCM
MIC28516	4.5V- 70V	0.6V to 32	-40 to 125	270 to 800	8000	DCM
LX7167A	3.0 to 5.5	0.6 to 3.3	–10 to +85	3000	2400	Skip-mode, UVLO, OV, Power Good
LX7176	3.0 to 5.5	0.6 to 3.3	0 to +85	1650	3000	PWM, 100% Duty Cycle, UVLO, OV, Power Good
LX7176A	3.0 to 5.5	0.6 to 3.3	0 to +85	1650	4000	PFM/PWM, 100% Duty Cycle, UVLO, OV, Power Good
LX7180A	3.0 to 5.5	0.6 to 3.3	0 to +85	1650	4000	I²C Programmable, Power Save Mode, Power Good
LX7165/7178	3.0 to 5.5	0.6 to 3.3	0 to +85	1875	5000	I²C Programmable, Power Save Mode, Power Good
LX7219/7220	2.7 to 5.5	0.6 to 3.3	–40 to +85	1200	6000	I²C Programmable, Power Save Mode, Power Good
MCP1601	2.7 to 5.5	0.9V to V_{IN}	–40 to +85	750	500	UVLO, Auto-switching, LDO
MCP1602	2.7 to 5.5	0.8 to 4.5	–40 to +85	2000	500	PFM, PWM auto-switching, UVLO, soft start, power good indicator
MCP1603	2.7 to 5.5	0.8 to 4.0	–40 to +85	2000	500	Overtemperature and overcurrent protection
MCP1612	2.7 to 5.5	0.8 to 5.5	–40 to +85	1400	1000	Overall efficiency > 94%, Soft start, overtemperature and overcurrent protection
MIC2245	2.7 to 5.5	Adj.	–40 to +125	4,000	500	LDO Standby Mode and Low Q current
MIC23030	2.7 to 5.5	1.0, 1.2, 1.5, 1.8, Adj.	–40 to +125	8,000	400	HyperLight Load® mode

POWER MANAGEMENT: Single Output Switching Regulators (Buck)

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Junction Temperature Range (°C)	Switching Frequency (kHz)	Output Current (mA)	Features
MIC23031	2.7 to 5.5	1.0, 1.2, 1.5, 1.8, Adj.	–40 to +125	4,000	400	HyperLight Load mode
MIC23050	2.7 to 5.5	1.0, 1.2, 1.8, 3.3	–40 to +125	4,000	600	HyperLight Load mode
MIC23051	2.7 to 5.5	1–1.2, 1–1.8, 1.15–1.4, 0.95–1.25	–40 to +125	4,000	600	HyperLight Load mode, voltage scaling
MIC23150	2.7 to 5.5	1.0, 1.2, 1.35, 1.8, 3.3	–40 to +125	4,000	2,000	HyperLight Load mode
MIC23153	2.7 to 5.5	1.8, Adj.	–40 to +125	4,000	2,000	Power Good, HypperLight Load mode
MIC23155	2.7 to 5.5	1.8, Adj.	–40 to +125	3,000	2,000	Power Good, HypperLight Load mode
MIC23303	2.7 to 5.5	Adj.	–40 to +125	4,000	3,000	Power Good, HypperLight Load mode
MIC23201	2.7 to 5.5	Adj.	–40 to +125	2,000	2,000	Power Good
MIC2202	2.3 to 5.5	Adj.	–40 to +125	1,600–2,500	600	
MIC2204	2.3 to 5.5	Adj.	–40 to +125	2,000	600	
MIC2267	3 to 5.5	Adj.	–40 to +125	400–1,500	2,000	Power Good
MIC2207	2.7 to 5.5	Adj.	–40 to +125	2,000	3,000	Power Good
MIC2208	2.7 to 5.5	Adj.	–40 to +125	1,000	3,000	Power Good
MIC22200	2.6 to 5.5	Adj.	–40 to +125	800–1,200	3,000	Power Good
MIC22400	2.6 to 5.5	Adj.	–40 to +125	300–4,000	4,000	Power Good
MIC22601	2.6 to 5.5	Adj.	–40 to +125	4,000	6,000	Power Good
MIC22602	2.6 to 5.5	Adj.	–40 to +125	1,000	6,000	Power Good
MIC22700	2.6 to 5.5	Adj.	–40 to +125	1,000	7,000	Power Good
MIC22950	2.6 to 5.5	Adj.	–40 to +125	400–2,000	10,000	Power Good
MCP16311	4.4 to 30.0	2.0 to 24.0	–40 to +125	500	1000	PFM/PWM operation, enable function
MCP16312	4.4 to 30.0	2.0 to 24.0	–40 to +125	500	1000	PWM operation, enable function
MCP16301	4.0 to 30	2.0 to 15	–40 to +85	500	600	Integrated N-channel, UVLO, Soft start, overtemperature protection
MIC24045	4.5 to 19	0.64 to 5.25	–40 to +125	310–1200	5000	I²C Programmable, 4.5V–19V Input, 5A Step-Down Converter
TC105	2.2 to 10	3.0, 3.3, 5.0	–40 to +85	300	1000	Low power shutdown mode
MIC24046	4.5 to 19	0.7 to 3.3	–40 to +125	400–790	5000	Pin-Programmable, 4.5V–19V Input, 5A Step-Down Converter
MIC24051	4.5 to 19	Adj.	–40 to +125	600	6000	Power Good, Soft Start, Architecture Regulation Scheme
MIC24052	4.5 to 19	Adj.	–40 to +125	600	6000	Power Good, Soft Start, HyperLight Load mode
MIC24053	4.5 to 19	Adj.	–40 to +125	600	9000	Power Good, Soft Start, Architecture Regulation Scheme
MIC24054	4.5 to 19	Adj.	–40 to +125	600	9000	Power Good, Soft Start, HyperLight Load mode
MIC24055	4.5 to 19	Adj.	–40 to +125	600	12000	Power Good, Soft Start, Architecture Regulation Scheme
MIC24056	4.5 to 19	Adj.	–40 to +125	600	12000	Power Good, Soft Start, HyperLight Load mode
MIC26601	4.5 to 28	Adj.	–40 to +125	600	6000	Power Good, Soft Start, Hyper Speed Control®architecture
MIC26603	4.5 to 28	Adj.	–40 to +125	600	6000	Power Good, Soft Start, HyperLight Load mode
MIC26603Z	4.5 to 28	Adj.	–40 to +125	600	6000	Power Good, Soft Start, HyperLight Load mode
MIC26901	4.5 to 28	Adj.	–40 to +125	600	9000	Power Good, Soft Start, Hyper Speed Control architecture
MIC26903	4.5 to 28	Adj.	–40 to +125	600	9000	Power Good, Soft Start, HyperLight Load mode
MIC26950	4.5 to 26	Adj.	–40 to +125	300	12000	Soft Start, Architecture Regulation Scheme: Hyper Speed Control architecture, Thermal Shutdown
MIC27600	4.5 to 36	Adj.	–40 to +125	300	7000	Soft Start, Architecture Regulation Scheme: Hyper Speed Control architecture Thermal Shutdown
MIC4680	4 to 34	3.3, 5.0, Adj.	–40 to +125	200	1,300	
MIC4681	4 to 30	Adj.	–40 to +125	400	2,000	
MIC4682	4 to 34	Adj.	–40 to +125	200	2,000	
MIC4684	4 to 30	Adj.	–40 to +125	200	2,000	
MIC4685	4 to 30	Adj.	–40 to +125	200	3,000	
MCP16331	4.4 to 50	2.0 to 24.0	–40 to +125	500	1000	Integrated N-channel, UVLO, Soft start, Overtemperature Protection
MIC28510	4.5 to 75	Adj.	–40 to +125	100–500	4000	Soft Start, Architecture Regulation Scheme: Hyper Speed Control architecture Thermal Shutdown

POWER MANAGEMENT: Single Output Switching Regulators (Buck)

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Junction Temperature Range (°C)	Switching Frequency (kHz)	Output Current (mA)	Features
MIC28511-1	4.6 to 60	Adj.	–40 to +125	200–680	3000	Power Good, Soft Start, HyperLight Load® mode
MIC28511-2	4.6 to 60	Adj.	–40 to +125	200–680	3000	Power Good, Soft Start, Hyper Speed Control architecture
MIC28514	4.5 to 75	0.6 to 32	–40 to +125	270–800	5000	Adj. Soft Start, Power Good, Internal Compensation, Enable, Pre-bias Start Up
MIC28515	4.5 to 75	0.6 to 32	–40 to +125	270–800	5000	Selectable Operating Mode, Power Good, Internal Compensation, Enable, Pre-Bias Start Up
MIC28512-1	4.6 to 70	Adj.	–40 to +125	200–680	2000	Power Good, Soft Start, HyperLight Load mode
MIC28512-2	4.6 to 70	Adj.	–40 to +125	200–680	2000	Power Good, Soft Start, Hyper Speed Control architecture
MIC28513-1	4.6 to 45	Adj.	–40 to +125	200–680	4000	Power Good, Soft Start, Hyper Speed Control architecture
MIC28513-2	4.6 to 45	Adj.	–40 to +125	200–680	4000	Power Good, Soft Start, Hyper Speed Control architecture
MIC4930	2.7 to 5.5	Adj.	–40 to +125	3300	3000	Power Good, Safe Start, Thermal Shutdown and Current Limit
MIC4950	2.7 to 5.5	Adj.	–40 to +125	3300	5000	Power Good, Safe Start, Thermal Shutdown and Current Limit
MIC23350	**2.4 to 5.5**	**0.6 to 3.3**	**–40 to +125**	**600–3000**	**3000**	**Pin selectable Vout, 100% Duty Cycle, Safe Startup, UVLO, TSD, OCI Power Good**
MIC23356	**2.4 to 5.5**	**0.6 to 3.84**	**–40 to +125**	**600–3000**	**3000**	**I²C programmable, 100% Duty Cycle, Safe Startup, UVLO, TSD, OCP, Power Good**
MIC23650	**2.4 to 5.5**	**0.6 to 3.3**	**–40 to +125**	**1000–1400**	**6000 (pulsed)**	**Pin selectable Vout, 100% Duty Cycle, Safe Startup, UVLO, TSD, OCI Power Good**
MIC23656	**2.4 to 5.5**	**0.6 to 3.84**	**–40 to +125**	**1000–1400**	**6000 (pulsed)**	**I²C programmable, 100% Duty Cycle, Safe Startup, UVLO, TSD, OCP, Power Good**

POWER MANAGEMENT: Single Output Switching Regulators (Boost)

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Junction Temperature Range (°C)	Switching Frequency (kHz)	Output Switch Current (mA)	Features
MCP16411	0.8-5.25	1.8-5.25	-40 to +125	PFM/PWM 500 kHz	Dependent on V_{IN}, V_{OUT} 1000 mA typ switching current	Low Iq Boost Converter, In-Out Bypass, Low Battery Output, PG and Overtemp. S Discharge
MCP16412	0.8-5.25	1.8-5.25	-40 to +125	PWM 500 kHz	Dependent on V_{IN}, V_{OUT} 1000 mA typ switching current	Low Iq Boost Converter, In-Out Bypass, Low Battery Output, PG and Overtemp. S Discharge
MCP16413	0.8-5.25	1.8-5.25	-40 to +125	PFM/PWM 500 kHz	Dependent on V_{IN}, V_{OUT} 1000 mA typ switching current	Low Iq Boost Converter, In-Out Bypass, Low Battery Output, PG and Overtemp. S Bypass
MCP16414	0.8-5.25	1.8-5.25	-40 to +125	PWM 500 kHz	Dependent on V_{IN}, V_{OUT} 1000 mA typ switching current	Low Iq Boost Converter, In-Out Bypass, Low Battery Output, PG and Overtemp. S Bypass
MCP16415	0.8-5.25	1.8-5.25	-40 to +125	PFM/PWM 500 kHz	Dependent on V_{IN}, V_{OUT} 1000 mA typ switching current	Low Iq Boost Converter, In-Out Bypass, Low Battery Output and PG. Shutdown st
MCP16416	0.8-5.25	1.8-5.25	-40 to +125	PWM 500 kHz	Dependent on V_{IN}, V_{OUT} 1000 mA typ switching current	Low Iq Boost Converter, In-Out Bypass, Low Battery Output and PG. Shutdown st
MCP16417	0.8-5.25	1.8-5.25	-40 to +125	PFM/PWM 500 kHz	Dependent on V_{IN}, V_{OUT} 1000 mA typ switching current	Low Iq Boost Converter, In-Out Bypass, Low Battery Output and PG. Shutdown st
MCP16418	0.8-5.25	1.8-5.25	-40 to +125	PWM 500 kHz	Dependent on V_{IN}, V_{OUT} 1000 mA typ switching current	Low Iq Boost Converter, In-Out Bypass, Low Battery Output and PG. Shutdown st
MCP1623/4	0.65 to 5.5	2.0 to 5.5	–40 to +85	500	425	Integrated synchronous boost regulator, 0.65V start-up voltage, soft start, tru
MCP1642B/D	0.65 to 5.5	1.8 to 5.5	–40 to +85	1000	1800	Integrated synchronous boost regulator, 0.65V start-up voltage, soft start, en true load disconnect or input-to-output bypass option
MCP16251/2	0.82 to 5.5	1.8 to 5.5	–40 to +85	500	650	True load disconnect shutdown (MCP16251)/Input to output bypass shutdow
MCP1640/B/C/D	0.65 to 5.5	2.0 to 5.5	–40 to +85	500	800	Integrated synchronous boost regulator, 0.65V start-up voltage, Soft start, Tr input-to-output bypass option
MCP1643	0.5 to 5.5	0.6 to 5.0	–40 to +85	1000	1600	True load disconnect, Shutdown
MCP1665	2.7 to 5	Up to 32	–40 to +85	500	3600	Pin selectable PWM or PFM/PWM mode
MCP1663/4	2.4 to 5.5	Up to 32	–40 to +85	500	1800	High-efficiency (up to 92%), fixed-frequency, non-synchronous, 300 mV feedbac (MCP1664)
MCP1661/2	2.4 to 5.5	Up to 32	–40 to +85	500	1300	Non-synchronous, Soft start, Enable, 300 mV feedback for LED driving (MCP
MIC2141	2.2 to 14	Up to 22	–40 to +85	330	1000	Micropower bost converter with control signal input to proportionally adjust o

POWER MANAGEMENT: Single Output Switching Regulators (Boost)

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Junction Temperature Range (°C)	Switching Frequency (kHz)	Output Switch Current (mA)	Features
MIC2619	2.8 to 6.5	Up to 35	–40 to +125	1200	350	1.2 MHz PWM boost converter with OVP
MIC2290	2.5 to 10	Up to 34	–40 to +125	1200	750	2 mm × 2 mm PWM boost regulator with internal Schottky diode
MIC2605/06	4.5 to 20	Up to 40	–40 to +125	1200/2000	500	0.5A, 1.2 MHz/2 MHz wide input range boost with integrated switch and Sch
MIC2145	2.4 to 16	Up to 16	–40 to +85	450	900	High-efficiency 2.5W boost converter
MIC2570/1	1.3 to 15	Up to 36	–40 to +85	20	1100	Two-cell/single-cell switching regulator
MIC2288	2.5 to 10	Up to 34	–40 to +125	1200	1200	1A 1.2 MHz PWM boost converter in Thin SOT-23 and 2 mm × 2 mm MLF
MIC3172	3 to 40	Up to 65	–40 to +85	100	1250	100 kHz 1.25A switching regulators with enable pin
MIC2295/96	2.5 to 10	Up to 34	–40 to +125	1200/600	1200	High power density 1.2A boost regulator
MIC2601/02	4.5 to 20	Up to 40	–40 to +125	1200/2000	1200	1.2A, 1.2 MHz/2 MHz wide input range integrated switch boost regulator
MIC2250/51	2.5 to 5.5	Up to 32/27	–40 to +125	Variable	900	High-efficiency low EMI boost regulator with frequency dithering
MIC2172	3 to 40	Up to 65	–40 to +85	100	1250	100 kHz 1.25A switching regulator with frequency sync
MIC2253	2.5 to 10	Up to 30	–40 to +125	1000	3500	3.5A 1 MHz high-efficiency boost regulator with OVP and softstart
MIC2171	3 to 40	Up to 65	–40 to +85	100	2500	100 kHz 2.5A switching regulator
MIC2875/76	2.5 to 6	Up to 6	–40 to +125	2000	4800	4.8A ISW, synchronous boost regulator with bi-directional load disconnect
MIC2877	2.5 to 5.5	V_{IN} to 5.5V	–40 to +125	2000	6500	6.5A ISW, synchronous boost regulator with bidirectional load disconnect

POWER MANAGEMENT: Multiple Output Switching Regulators

Part #	Description	Input Voltage Range (V)	Number of Outputs	Output Voltage (V)	Operating Temperature Range (°C)	Control Scheme	Switching Frequency (kHz)	Output Current (mA)	
MCP16501	**Cost and Size Optimized PMIC for SAMA5DX/SAM9X6/SAMA7G Series MPUs**	**2.7 to 5.5**	**4**	**Buck1: 1.2 to 3.7V Buck2-3: 0.6 to 1.85V LDO: 0.9V to 3.7V**	**–40 to +125**	**PWM, PFM, Hyst**	**2000**	**Buck1-3: 1A/Channel LDO: 300 mA**	**100% Ma Low Quies Sequencin Managem**
MCP16502	**High Performance PMIC for SAMA5DX/SAM9X6/SAMA7G Series MPUs**	**2.7 to 5.5**	**6**	**Buck1: 1.2 to 3.7V Buck2-4: 0.6 to 1.85V LDO: 1.2V to 3.7V**	**–40 to +125**	**PWM, PFM, Hyst**	**2000**	**Buck1-4: 1A/Channel LDO1-2: 300 mA/channel**	**I²C, DVS, Efficien Integrate Mode Ope**
MIC4742	2 MHz Dual 2A Integrated Switch Buck Regulator	2.9 to 5.5	2	DC/DC: 0.6 to 5.5	–40 to +125	PWM Mode	2000	DC to DC: 2,000/2,000 mA	AEC-Q
MIC4744	4 MHz Dual 2A Integrated Switch Buck Regulator	2.9 to 5.5	2	DC/DC: 0.6 to 5.5	–40 to +125	PWM Mode	4000	DC to DC: 2,000/2,000 mA	
MIC4782	1.8M Hz Dual 2A Integrated Switch	3 to 6	2	DC/DC: 0.6 to 6	–40 to +125	PWM Mode	1800	DC to DC: 2,000/2,000 mA	
MIC2238	2.5 MHz Dual Phase PWM Buck Regulator	2.5 to 5.5	2	DC/DC: 0.8 to 3.3	–40 to +125	PWM Mode	2500	DC to DC: 800/800 mA	Automatic sw operation
MIC23250	4 MHz Dual Synchronous Buck Regulator	2.7 to 5.5	2	DC/DC: 0.8 to 3.3	–40 to +125	PWM Mode	4000	DC to DC: 400/400 mA	With HyperLig
MIC23254	4 MHz Dual 400 mA Synchronous Buck Regulator	2.5 to 5.5	2	1.0/1.8	–40 to +125	PWM Mode	4000	DC to DC: 400/400 mA	With Low Inpu mode
MIC23450	3 MHz, PWM, 2A Triple Buck Regulator	2.7 to 5.5	3	DC/DC: 1.0 to 3.3	–40 to +125	PWM Mode	3000	DC to DC: 2,000/2,000/2,000 mA	With HyperLig
MIC24420	2.5A Dual Output PWM Synchronous Buck Regulator	4.5 to 15	2	DC/DC: 0.7 to 10.5	–40 to +125	PWM Mode	1000	DC to DC: 2,500/2,500 mA	Power Good operation
MIC24421	2.5A Dual Output PWM Synchronous Buck Regulator	4.5 to 15	2	DC/DC: 0.7 to 10.5	–40 to +125	PWM Mode	500	DC to DC: 2,500/2,500 mA	Power Good operation
MIC25400	2A Dual Output PWM Synchronous Buck Regulator	4.5 to 13.2	2	DC/DC: 0.7 to 9.4	–40 to +125	PWM Mode	1000	DC to DC: 2,000/2,000 mA	180° out of ph

POWER MANAGEMENT: Multiple Output Switching Regulators

Part #	Description	Input Voltage Range (V)	Number of Outputs	Output Voltage (V)	Operating Temperature Range (°C)	Control Scheme	Switching Frequency (kHz)	Output Current (mA)	
MIC23158	3 MHz PWM Dual 2A Buck Regulator with Output Auto Discharge + B15	2.7 to 5.5	2	DC/DC: 1 to 3.3	–40 to +125	PWM Mode	3000	DC to DC: 2,000/2,000 mA	HyperLight Lo Output Auto-D
MIC23159	3 MHz PWM Dual 2A Buck Regulator	2.7 to 5.5	2	DC/DC: 1 to 3.3	–40 to +125	PWM Mode	3000	DC to DC: 2,000/2,000 mA	HyperLight Lo
MIC23451	3 MHz, 2A Triple Synchronous Buck Regulator	2.7 to 5.5	3	DC/DC: 1 to 3.3	–40 to +125	PWM Mode	3000	DC to DC: 2,000/2,000/2,000 mA	HyperLight Lo
MIC2230	Dual Synchronous Step-Down DC/DC Regulator	2.5 to 5.5	2	DC/DC: 0.8 to 3.3	–40 to +125	PWM Mode	2500	DC to DC: 800/800 mA	Power Good
MIC23060	4 MHz DC/DC Regulator and LDO Regulator	2.7 to 5.5	2	DC/DC Boost: 1.8 to 3.3 DC/DC Buck: 1 to Boost V_{OUT}	–40 to +125	PWM Mode	4000	DC to DC Buck: 600 mA, LDO: 300 mA	Flexible seque
MIC2225	2 MHz DC/DC Converter with LDO	2.7 to 5.5	2	DC/DC: 1.0 to 4.5 LDO: 0.8 to 3.3	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300 mA	Independent
MIC23099	Step-Up/Step-Down Regulators with Battery Monitoring	0.85 to 1.6	2	DC/DC: 1.7 to 2.5 LDO: 0.8 to 2.5	–40 to +125	PWM Mode	100 Boost, 1000 Buck	DC to DC Buck: 30mA, DC/DC Boost 200 mA	AA/AAA Batte
MIC2800	2 MHz DC/DC Converter with Two Linear Regulators. POR/Power Good pin and LOWQ Mode	2.7 to 5.5	3	DC/DC: 1.8 to 3.3 LDOs: 0.8 to 3.6	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300/300 mA	POR/Power G
MIC2810	2 MHz DC/DC Regulator with Two Linear Regulators. LDO1 has a separate V_{IN} pin and can either post-regulate the DC/DC converter or be connect directly to the main input supply. POR/Power Good Pin.	2.7 to 5.5	3	DC/DC: 1.8 to 3.3 LDOs: 0.8 to 3.6	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300/300 mA	LDO1 has a s post-regulate
MIC2811	2 MHz 600 mA DC/DC Regulators with Triple 300 mA LDOs	2.7 to 5.5	4	LDO1/2 : 0.8 to 3.6 LDO3 : 1.0 to 3.9	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300/300/300 mA	LDO1 and LD
MIC2821	2 MHz 600 mA DC/DC Regulators with Triple 300 mA LDOs	2.7 to 5.5	4	LDO1/2 : 0.8 to 3.6 LDO3 : 1.0 to 3.9	–40 to +125	PWM Mode	2000	DC to DC Buck: 600 mA, LDO: 300/300/300 mA	Independent
MIC2826	Quad Output PMIC with HyperLight Load Mode DC/DC, Three LDOs and I²C Control	2.7 to 5.5	4	DC/DC : 0.8 to 1.8 LDOs : 0.8 to 3.3	–40 to +125	PWM Mode	4000	DC to DC Buck: 500 mA, LDO: 150/150/150 mA	I²C Control an LDOs
MIC2827	Triple Output PMIC with HyperLight Load Mode DC-DC, Two LDOs and I²C Control	2.7 to 5.5	3	DC/DC : 0.8 to 1.8 LDOs : 0.8 to 3.3	–40 to +125	PWM Mode	4000	DC to DC Buck: 500 mA, LDO: 150/150 mA	I²C Control an LDOs
MIC7400	Configurable Five-Channel Buck Regulator Plus One-Boost	2.4 to 5.5	6	Bucks: 0.8 to 3.3 (Configurable) Boost: 7.0 to 14.0 (Configurable)	–40 to +125	PWM Mode	2000 Boost, 1300 Bucks	DC to DC Bucks: 3,000 mA, DC/DC Boost 200 mA	Highly integra buck regulato power good i
MIC7401	Configurable Five-Channel Buck Regulator Plus One-Boost with HyperLight Load mode, I²C Control, and Enable	2.4 to 5.5	6	Bucks : 0.8 to 3.3 (Configurable) Boost : 7.0 to 14.0 (Configurable)	–40 to +125	PWM Mode	2000 Boost, 1300 Bucks	DC to DC Bucks: 3,000 mA, DC/DC Boost 200 mA	Highly integrat regulators, one good indicator

POWER MANAGEMENT: Combination Switching Regulators

Part #	Description	Input Voltage Range (V)	Output Voltage (V)	Operating Temp. Range (°C)	Control Scheme	Switching Frequency (kHz)	Typical Active Current (mA)	Output Current (mA)	
TC1303	Synchronous Buck Regulator, LDO with Power Good	2.7 to 5.5	DC/DC: 0.8 to 4.5 LDO: 1.5 to 3.3	–40 to +85	PFM/PWM	2000	65/600	DC/DC: 500 mA LDO: 300 mA	PFM/P Power
TC1304	Synchronous Buck Regulator, LDO	2.7 to 5.5	DC/DC: 0.8 to 4.5 LDO: 1.5 to 3.3	–40 to +85	PFM/PWM	2000	65/600	DC/DC: 500 mA LDO: 300 mA	PFM/P Power
TC1313	Synchronous Buck Regulator, LDO	2.7 to 5.5	DC/DC: 0.8 to 4.5 LDO: 1.5 to 3.3	–40 to +85	PFM/PWM	2000	65/600	DC/DC: 500 mA LDO: 300 mA	PFM/P

POWER MANAGEMENT: Inductorless Offline Switching Regulators

Part #	V_{IN} (V_{AC})	Adjustable V_{OUT} (V)	Fixed V_{OUT} (V)	I_{OUT} Max. (mA)	Load Regulatio
SR086	80–285	9.0–50	3.3	100	0.025
SR087	80–285	9.0–50	5	100	0.017
SR10	80–285	6.0–28	6.0, 12, 24	60	–

POWER MANAGEMENT: PWM Controllers

Part #	Supported Topologies	Supported Outputs	Input Voltage Range (V)	Output Voltage (V)	Operating Frequency (Hz)	Operating Temp. Range (°C)	Features
MIC2101	Sync. Buck	1	4.5 to 38	0.8 to 24	200k to 600k	–40 to +125	HyperLight Load® mode, External Clock Sync, Power Good, Soft S Internal Compensation and Voltage Bias
MIC2102	Sync. Buck	1	4.5 to 38	0.8 to 24	200k to 600k	–40 to +125	Power Good, Soft Start, Internal Compensation and Voltage Bias
MIC2103	Sync. Buck	1	4.5 to 75	0.8 to 24	200k to 600k	–40 to +125	HyperLight Load mode, External Clock sync, Power Good, Soft S Internal Compensation and Voltage Bias
MIC2104	Sync. Buck	1	4.5 to 75	0.8 to 24	200k to 600k	–40 to +125	Power Good, Soft Start, Internal Compensation and Voltage Bias
MIC2111B	Sync. Buck	1	3.3 to 5.5	0.6 to 3.64	200k to 2M	–40 to +125	Power Good, Soft Start, Internal Voltage Bias, Enable Pin, Current Limit/Short Circuit Protection
MIC2124	Sync. Buck	1	3.0 to 18	0.8 to 12	300k	–40 to +125	Soft Start, Internal Voltage Bias
MIC2130	Sync. Buck	1	8.0 to 40	0.7 to 24	150k or 400k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias
MIC2131	Sync. Buck	1	8.0 to 40	0.7 to 24	150k or 400k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias
MIC2150	Sync. Buck	2	4.5 to 14.5	0.7 to 5.5	500k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias
MIC2151	Sync. Buck	2	4.5 to 14.5	0.7 to 5.5	300k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias
MIC2155	Sync. Buck	1	4.5 to 14.5	0.7 to 3.6	500k	–40 to +125	External Clock Sync, Power Good, Soft Start
MIC2164	Sync. Buck	1	3.0 to 28	0.8 to 5.5	300k, 600k, 1M	–40 to +125	Soft Start, Internal Compensation and Voltage Bias
MIC2164C	Sync. Buck	1	3.0 to 28	0.8 to 5.5	270k	–40 to +125	Soft Start, Internal Compensation and Voltage Bias
MIC2165	Sync. Buck	1	4.5 to 28	0.8 to 5.5	600k	–40 to +125	Hyper Speed Control® architecture, Power Good, Soft Start, Interr Voltage Bias
MIC2166	Sync. Buck	1	4.5 to 28	0.8 to 5.5	600k	–40 to +125	Power Good, Soft Start, Internal Compensation and Voltage Bias
MIC2168	Sync. Buck	1	3.0 to 14.5	0.8 to 5.5	1.0M	–40 to +125	Soft Start, Internal Compensation and Voltage Bias
MIC2169	Sync. Buck	1	3.0 to 14.5	0.8 to 5.5	500k	–40 to +125	Soft Start, Internal Voltage Bias
MIC2169A	Sync. Buck	1	3.0 to 14.5	0.8 to 5.5	500k	–40 to +125	Soft Start, Internal Voltage Bias
MIC2169B	Sync. Buck	1	3.0 to 14.5	0.8 to 5.5	500k	–40 to +125	Soft Start, Internal Voltage Bias
MIC2176	Sync. Buck	1	4.5 to 75	0.8 to 24	100k, 200k, or 300k	–40 to +125	Soft Start, Internal Compensation and Voltage Bias
MIC2182	Sync. Buck	1	4.5 to 32	1.25 to 6.0	300k	–40 to +85	Skip Mode, External Clock Sync, Soft Start, Internal Voltage Bias
MIC2183	Sync. Buck	1	2.9 to 14	1.3 to 12	200k/400k	–40 to +125	External Clock Sync, Soft Start, Internal Voltage Bias
MIC2128	Sync. Buck	1	4.5 to 75	0.6 to 30	200k to 800k	–40 to +125	Programmable soft-start/frequency/current-limit, Internal compens and voltage bias
MIC2127A	Sync. Buck	1	4.5 to 75	0.6 to 30	200k to 800k	–40 to +125	Light load operation, Programmable frequency,Current Limit, Swit over LDO
MIC2184	Async. Buck	1	2.9 to 14	1.3 to 12	200k/400k	–40 to +125	External Clock Sync, Soft Start, Internal Voltage Bias
MIC2185	Boost, SEPIC, Ćuk	1	2.9 to 14	3.3 to 5.5	200k/400k	–40 to +85	Skip Mode, External Clock Sync, Soft Start, Internal Voltage Bias
MIC2186	Boost, SEPIC, Flyback	1	2.9 to 14	3.3 to 5.5	100/200/400k	–40 to +85	Skip Mode, External Clock Sync, Soft Start, Internal Voltage Bias
MIC2193	Sync. Buck	1	2.9 to 14	3.3 to 5.5	400k	–40 to +125	Internal Voltage Bias, UVLO
MIC2194	Async. Buck	1	2.9 to 14	3.3 to 5.5	400k	–40 to +125	Internal voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC2196	Boost, SEPIC	1	2.9 to 14	3.3 to 5.5	400k	–40 to +125	Internal voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC2198	Sync. Buck	1	4.5 to 32	0.8 to 6.0	500k	–40 to +125	Internal voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC2199	Buck	1	4.5 to 32	0.8 to 6.0	300k	–40 to +125	Internal voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC3808	Push-Pull, Half Bridge, Full Bridge	1	8.3 to 15	–	Adj. to 1M	–40 to +85	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC3809	Push-Pull, Half Bridge, Full Bridge	1	4.1 to 15	–	Adj. to 1M	–40 to +85	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection

POWER MANAGEMENT: PWM Controllers

Part #	Supported Topologies	Supported Outputs	Input Voltage Range (V)	Output Voltage (V)	Operating Frequency (Hz)	Operating Temp. Range (°C)	Features
MIC3838	Push-Pull, Half Bridge, Full Bridge	1	8.3 to 15	–	Adj. to 1M	–40 to +85	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC3839	Push-Pull, Half Bridge, Full Bridge	1	4.1 to 15	–	Adj. to 1M	–40 to +85	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection
MIC38C42	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38C43	Forward, Flyback	1	9.0 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38C44	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38C45	Forward, Flyback	1	9.0 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38HC42	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38C43	Forward, Flyback	1	9.0 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38C44	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38C45	Forward, Flyback	1	9.0 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38HC42	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38HC44	Forward, Flyback	1	15.5 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC38HC45	Forward, Flyback	1	9.0 to 20	–	Adj. to 500k	–40 to +85	Forward,Flyback Supported Topologies
MIC9130	Forward, Flyback	1	9.0 to 180	–	Adj. to 1.5M	–40 to +125	Forward,Flyback Supported Topologies, External Clock Sync
MIC9131	Forward, Flyback	1	9.0 to 180	–	Adj. to 1M	–40 to +125	Forward,Flyback Supported Topologies, External Clock Sync
MCP1630	Flyback, Boost, SEPIC, Cuk	1	3.0 to 5.5	–	Sync. to 1M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection
MCP1630V	Flyback, Boost, SEPIC, Cuk	1	3.0 to 5.5	–	Sync. to 1M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection
MCP1631	Flyback, Boost, SEPIC, Cuk	1	3.0 to 5.5	–	Sync. to 2M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection
MCP1631V	Flyback, Boost, SEPIC, Cuk	1	3.0 to 5.5	–	Sync. to 2M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection
MCP1631HV	Flyback, Boost, SEPIC, Cuk	1	3.5 to 16	–	Sync. to 2M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection
MCP1631VHV	Flyback, Boost, SEPIC, Cuk	1	3.5 to 16	–	Sync. to 2M	–40 to +125	External Clock Sync, Current Limit/Short Circuit Protection
MCP1632	Flyback, Boost, SEPIC, Cuk	1	3.0 to 6	–	300k/600k	–40 to +125	Soft Start, Internal Voltage Bias, UVLO, Current Limit/Short Circuit Protection
MCP1633	**Flyback, Boost, SEPIC, Cuk**	**1**	**3 to 5.5**	**-**	**Sync to 2.2M**	**–40 to +125**	**High Speed Current Mode, Easy to Interface with MCU**
MCP19035	Sync. Buck	1	4.5 to 30	–	300k/600k	–40 to +125	Power Good, Soft Start, Internal Voltage Bias, UVLO, Current Lim Short Circuit Protection
MCP1633	Flyback, Boost, SEPIC, Cuk	1	3 to 5.5	-	Sync to 2.2M	-40 to +125	High Speed Current Mode, Easy to Interface with MCU

POWER MANAGEMENT: Hybrid PWM Controllers – Digitally Enhanced Power Analog

Part #	Input Voltage Range (V)	Output Voltage (V)	Topologies Supported	Channels	Program Memory Size (kWords)	RAM (bytes)	GPIO	Product features integrated MCU, LDO, MOSFET drivers, 10-b configurable operation and:
MCP19110	4.5 to 32	0.5 to 90% * V_{IN}	Sync. Buck	1	4	256	11	Configurable and dynamically changeable internal analog compensation
MCP19111	4.5 to 32	0.5 to 90% * V_{IN}	Sync. Buck	1	4	256	14	Configurable and dynamically changeable internal analog compensation interface
MCP19114	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Cuk	1	4	256	8	Excellent regulation for constant current applications
MCP19115	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Cuk	1	4	256	12	Excellent regulation for constant current applications and a debug interf

POWER MANAGEMENT: Hybrid PWM Controllers – Digitally Enhanced Power Analog

Part #	Input Voltage Range (V)	Output Voltage (V)	Topologies Supported	Channels	Program Memory Size (kWords)	RAM (bytes)	GPIO	Product features integrated MCU, LDO, MOSFET drivers, 10-b configurable operation and:
MCP19116	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	8	336	8	Improved current regulation accuracy, additional code space (compare MCP19115)
MCP19117	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	8	336	12	Improved current regulation accuracy, additional code space (compare MCP19115) and a debug interface
MCP19118	4.5 to 40	0.5 to 90% * V_{IN}	Sync. Buck	1	4	256	11	Configurable and dynamically changeable internal analog compensation
MCP19119	4.5 to 40	0.5 to 90% * V_{IN}	Sync. Buck	1	4	256	14	Configurable and dynamically changeable internal analog compensation interface
MCP19122	4.5 to 40	0.3 to 16	Sync. Buck	1	4	256	12	Emulated average current mode control, programmable gain feedback improved regulation accuracy and current measurement accuracy (Con
MCP19123	4.5 to 40	0.3 to 16	Sync. Buck	1	4	256	16	Emulated average current mode control, programmable gain feedback operation, improved regulation accuracy and current measurement acc MCP19110/1/8/9) and a debug interface
MCP19124	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	4	256	8	Dual independent voltage and current control loops allow seamless tran to constant current regulation
MCP19125	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	1	4	256	12	Dual independent voltage and current control loops allow seamless tran to constant current regulation and a debug interface
MCP19214	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	2	8	336	8	Dual channels, which can be configured to control two outputs, or one
MCP19215	4.5 to 42	Dependent on topology	Boost, Flyback, SEPIC, Ćuk	2	8	336	12	Dual channels, which can be configured to control two outputs, or one debug interface

POWER MANAGEMENT: Power Modules

Part #	Input Voltage Range (V)	Output Voltage (V)	Operating Temp. Range (°C)	Control Scheme	Switching Frequency (kHz)	V_{OUT} Max. (V)	Output Current (A)	Features
MIC28304-1	4.5 to 70	Adj.	–40 to +125	COT	600	24	3	HyperLight Load® Mode, Power Good, Soft Start
MIC28304-2	4.5 to 70	Adj.	–40 to +125	COT	600	24	3	Hyper Speed Control® Architecture, Power Good, S
MIC45205-1	4.5 to 26	Adj.	–40 to +125	COT	200–600	5.5	6	HyperLight Load Mode, Power Good, Soft Start
MIC45205-2	4.5 to 26	Adj.	–40 to +125	COT	200–600	5.5	6	Hyper Speed Control Architecture, Power Good, So
MIC45208-1	4.5 to 26	Adj.	–40 to +125	COT	200–600	5.5	10	HyperLight Load Mode, Power Good, Soft Start
MIC45208-2	4.5 to 26	Adj.	–40 to +125	COT	200–600	5.5	10	Hyper Speed Control Architecture, Power Good, So
MIC45212-1	4.5 to 26	Adj.	–40 to +125	COT	200–600	5.5	14	HyperLight Load Mode, Power Good, Soft Start
MIC45212-2	4.5 to 26	Adj.	–40 to +125	COT	200–600	5.5	14	Hyper Speed Control Architecture, Power Good, So
MIC33030	2.7 to 5.5	1.2, 1.8, Adj.	–40 to +125	PWM	8,000	3.6	0.4	HyperLight Load Mode
MIC33050	2.7 to 5.5	1.0, 1.2, 1.8, 3.3, Adj.	–40 to +125	PWM	4,000	3.3	0.6	HyperLight Load Mode
MIC33153	2.7 to 5.5	1.2, Adj.	–40 to +125	PWM	4,000	3.6	1.2	HyperLight Load Mode, Power Good, Soft Start
MIC3385	2.7 to 5.5	1.5, Adj.	–40 to +125	PWM	8,000	5.5	0.6	LowQ
MIC33M650	2.4 to 5.5	Pin Selectable	–40 to +125	COT	1000–2500	3.84	6	HyperLight Load, Meet CISPR 32 class B specificat
MIC33M656	2.4 to 5.5	I²C Configurable	–40 to +125	COT	1000–2500	3.84	6	HyperLight Load, Meet CISPR 32 class B specificat
MIC28303-1	4.5 to 50	Adj.	–40 to +125	COT	600	24	3	HyperLight Load Mode, Power Good, Soft Start
MIC28303-2	4.5 to 50	Adj.	–40 to +125	COT	600	24	3	Hyper Speed Control Architecture, Power Good, So
MIC45116-1	4.5 to 20	Adj.	–40 to +125	COT	600	17	6	HyperLight Load Mode, Power Good, Soft Start
MIC45116-2	4.5 to 20	Adj.	–40 to +125	COT	600	17	6	Hyper Speed Control Architecture, Power Good, So
MIC45404	4.5 to 19	Selectable	–40 to +125	Fixed	400–790	3.3	5	Power Good, Soft Start
MIC33M356	**2.4 to 5.5**	**3.3**	**–40 to +125**	**COT**	**2300**	**3.84**	**3**	**HyperLight Load, I²C, Meet CISPR 32 class B specifications**
MIC33M350	**2.4 to 5.5**	**3.3**	**–40 to +125**	**COT**	**1200**	**3.3**	**3**	**HyperLight Load, Meet CISPR 32 class B specifi**
MIC38300	**3.0 to 5.5**	**Adjustable, Down to 1.0V**	**–40 to +125**	**Switcher Plus LDO**	**Adjustable by Low Pass Filter(LPF) pin**	**Up to 5.0V**	**3**	**HELDO™ High Efficiency Regulator, Ultra Fast T Low Output Noise**
MIC38150	**3.0 to 5.5**	**Adjustable, Down to 1.0V**	**–40 to +125**	**Switcher Plus LDO**	**Adjustable by LPF pin**	**Up to 5.0V**	**1.5**	**HELDO High Efficiency Regulator, Ultra Fast Tra Low Output Noise**

POWER MANAGEMENT: Charge Pump DC-to-DC Converters

Part #	Configuration	Input Voltage Range (V)	Output Voltage (V)	Typical Output Current (mA)	Switching Frequency (kHz)	Supply Current (Is, floating output µA, 25°C)	Output Resistance (Ω, at typical output current, 25°C)	Power Conversion Efficiency (%)	Feature
Inverting or Doubling Charge Pumps									
TC682	Inverted doubling	2.4 to 5.5	–2*VIN	10	12	185	140	92% at 2.5 mA	–
TC1240A	Doubling	2.5 to 5	2*VIN	20	80	550	12	94% at 5 mA	Shutdown
TC7660S	Inverting or doubling	1.5 to 12	–VIN or 2* VIN	20	10 or 45	80	60	98% at 1 mA	Boost pin increases swit
TC7660H	Inverting or doubling	1.5 to 10	–VIN or 2* VIN	20	120	1000	55	85% at 10 mA	High-voltage oscillator
TC7662B	Inverting or doubling	1.5 to 15	–VIN or 2* VIN	20	10 or 35	80	65	96% at 1 mA	Boost pin increases swit
TC7662A	Inverting or doubling	3 to 18	–VIN or 2* VIN	40	12	190	50	97% at 7.5 mA	No low-voltage terminal
TC962	Inverting or doubling	3 to 18	–VIN or 2* VIN	80	12 or 24	190	35	97% at 7.5 mA	Boost pin increases swit
Regulated Charge Pumps									
MCP1256	Regulated	1.8 to 3.6	3.3	100	650	2300	N/A	85% at 50 mA	Soft start, shutdown, po and sleep mode
MCP1257	Regulated	1.8 to 3.6	3.3	100	650	2300	N/A	85% at 50 mA	Soft start, shutdown, low signal, and sleep mode
MCP1258	Regulated	1.8 to 3.6	3.3	100	650	2300	N/A	85% at 50 mA	Soft start, shutdown, po and bypass mode
MCP1259	Regulated	1.8 to 3.6	3.3	100	650	2300	N/A	85% at 50 mA	Soft start, shutdown, low signal, and bypass mode
MCP1252	Regulated	2.0 to 5.5	3.3, 5.0, or adjustable	150	650	60	N/A	81% at 10 mA	Shutdown, power good, adjustable version
MCP1253	Regulated	2.0 to 5.5	3.3, 5.0, or adjustable	150	1000	60	N/A	81% at 10 mA	Shutdown, power good, adjustable version

POWER MANAGEMENT: CPU/System Supervisors

Part #	Type	Watchdog Timer	Manual Reset	Power Fail	Operating Temp. Range (°C)	VCC Range (V)	Nominal Reset Voltage (V)	Reset Type	Output	Typical Reset Pulse Width (ms)
MCP100	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3, 3.15, 4.5, 4.6, 4.75, 4.85	Active Low	Push-Pull	350
MCP101	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3, 3.15, 4.5, 4.6, 4.75, 4.85	Active High	Push-Pull	350
MCP102	Supervisor	–	–	–	–40 to +125	1.0–5.5	1.95 (I-Temp), 2.4, 2.7, 3, 3.15, 4.5, 4.75	Active Low	Push-Pull	120
MCP103	Supervisor	–	–	–	–40 to +125	1.0–5.5	1.95 (I-Temp), 2.4, 2.7, 3, 3.15, 4.5, 4.75	Active Low	Push-Pull	120
MCP120	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3, 3.15, 4.5, 4.6, 4.75, 4.85	Active Low	Open-Drain	350
MCP121	Supervisor	–	–	–	–40 to +125	1.0–5.5	1.95 (I-Temp), 2.4, 2.7, 3, 3.15, 4.5, 4.75	Active Low	Open-Drain	120
MCP130	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3, 3.15, 4.5, 4.6, 4.75, 4.85	Active Low	Open-Drain	350
MCP131	Supervisor	–	–	–	–40 to +125	1.0–5.5	1.95 (I-Temp), 2.4, 2.7, 3, 3.15, 4.5, 4.75	Active Low	Open-Drain	120
MCP1316	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active Low	Push-Pull	200
MCP1316M	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active Low	Open-Drain	200
MCP1317	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active High	Push-Pull	200
MCP1318	Supervisor	✓	–	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200
MCP1318M	Supervisor	✓	–	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200

POWER MANAGEMENT: CPU/System Supervisors

Part #	Type	Watchdog Timer	Manual Reset	Power Fail	Operating Temp. Range (°C)	V_{CC} Range (V)	Nominal Reset Voltage (V)	Reset Type	Output	Typical Reset Pulse Width (ms)
MCP1319	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200
MCP1319M	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0-2.4V=I-Temp, 2.4-4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200
MCP1320	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low	Open-Drain	200
MCP1321	Supervisor	✓	–	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200
MCP1322	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.9, 4.6, (2.0–2.4V=I-Temp, 2.4–4.7=Ext)	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	200
MCP809	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3.0, 3.15, 4.5, 4.6, 4.75, 4.85	Active Low	Push-Pull	350
MCP810	Supervisor	–	–	–	–40 to +85	1.0–5.5	2.7, 3.0, 3.15, 4.5, 4.6, 4.75, 4.85	Active High	Push-Pull	350
TC1232	Supervisor	✓	✓	–	–40 to +85	4.5–5.5	4.5, 4.75	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	610
TC1270A	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.7, 3, 3.15, 4.5, 4.75	Active Low	Push-Pull	280
TC1270AN	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.7, 3, 3.15, 4.5, 4.75	Active Low	Open-Drain	280
TC1271A	Supervisor	–	✓	–	–40 to +125	1.0–5.5	2.7, 3, 3.15, 4.5, 4.75	Active High	Push-Pull	280
TC1272A	Supervisor	–	–	–	–40 to +125	1.0–5.5	4.50, 4.25, 3.89, 3.00, 2.85, 2.55, 2.25	Active Low	Push-Pull	140
TC32M	Supervisor	✓	–	–	–40 to +85	4.5–5.5	4.25	Active Low	Open-Drain	500
TCM809	Supervisor	–	–	–	–40 to +125	1.0–5.5	4.50, 4.25, 3.89, 3.00, 2.85, 2.55, 2.25	Active Low	Push-Pull	140
TCM810	Supervisor	–	–	–	–40 to +125	1.0–5.5	4.50, 4.25, 3.89, 3.00, 2.85, 2.55, 2.25	Active High	Push-Pull	140
MIC705	Supervisor	✓	✓	✓	–40 to +85	1.5–5.5	4.65	Active Low	Push-Pull	140
MIC706	Supervisor	✓	✓	✓	–40 to +85	1.5–5.5	4.4	Active Low	Push-Pull	140
MIC707	Supervisor	–	–	✓	–40 to +85	1.5–5.5	4.65	Active Low/High or High/Low	Push-Pull	140
MIC708	Supervisor	–	–	✓	–40 to +85	1.5–5.5	4.4	Active Low/High or High/Low	Push-Pull	140
MIC803	Supervisor	–	–	–	–40 to +125	1.0–5.5	2.63, 2.93, 3.00, 3.08, 4.00, 4.10, 4.38, 4.63	Active Low	Open-Drain	20/140/1100
MIC809	Supervisor	–	–	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.08, 4.00, 4.38, 4.63	Active Low	Push-Pull	140
MIC809-5	Supervisor	–	✓	–	–40 to +125	1.4–5.5	2.93	Active Low	Push-Pull	30
MIC810	Supervisor	–	–	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.08, 4.00, 4.38, 4.63	Active Low/High or High/Low	Push-Pull	140
MIC811	Supervisor	–	✓	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.08, 4.00, 4.38, 4.63	Active Low	Push-Pull	140
MIC812	Supervisor	–	✓	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.08, 4.00, 4.38, 4.63	Active Low/High or High/Low	Push-Pull	140
MIC1810	Supervisor	–	–	–	–40 to +85	1.5–5.5	4.12, 4.37, 4.62	Active Low	Push-Pull	100
MIC1815	Supervisor	–	–	–	–40 to +85	1.5–5.5	2.55, 2.88	Active Low	Push-Pull	100
MIC1232	Supervisor	✓	–	–	–40 to +85	4.5–5.5	4.37, 4.62	Active Low/High or High/Low	Push-Pull	250
MIC1832	Supervisor	✓	✓	–	–40 to +85	1.4–5.5	2.55, 2.88	Active Low/High or High/Low	Push-Pull	250
MIC2755	Supervisor	–	✓	–	–40 to +85	1.5–5.5	1.24	Active Low	Open-Drain	700
MIC2775	Supervisor	–	✓	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67, 2.81, 2.93, 3.09, 4.43, 4.68	Active Low/High or High/Low	Push-Pull	140
MIC2776N	Supervisor	–	✓	–	–40 to +85	1.5–5.5	0.3	Active Low	Open-Drain	140
MIC2776H	Supervisor	–	✓	–	–40 to +85	1.5–5.5	0.3	Active High	Push-Pull	140
MIC2776L	Supervisor	–	✓	–	–40 to +85	1.5–5.5	0.3	Active Low	Push-Pull	140
MIC2778	Supervisor	–	–	–	–40 to +85	1.5–5.5	1.24 with adjustable hysteresis	Active Low	Open-Drain	140
MIC2779H	Supervisor	–	–	–	–40 to +85	1.5–5.5	1.24 with adjustable hysteresis	Active High	Push-Pull	140

POWER MANAGEMENT: CPU/System Supervisors

Part #	Type	Watchdog Timer	Manual Reset	Power Fail	Operating Temp. Range (°C)	V_{CC} Range (V)	Nominal Reset Voltage (V)	Reset Type	Output	Typical Reset Pulse Width (ms)
MIC2779L	Supervisor	–	–	–	–40 to +85	1.5–5.5	1.24 with adjustable hysteresis	Active Low	Push-Pull	140
MIC2785	Supervisor	–	✓	–	–40 to +85	1.5–5.5	1.62	Active Low	Push-Pull	0.025
MIC6315	Supervisor	–	✓	–	–40 to +85	1.4–5.5	2.63, 2.93, 3.00, 3.08, 4.00, 4.10, 4.38, 4.63	Active Low	Open-Drain	20/140/1100
MIC8114	Supervisor	–	✓	–	–40 to +85	1.0–5.5	3.08	Active Low	Push-Pull	790
MIC8115	Supervisor	–	✓	–	–40 to +85	1.0–5.5	3.08	Active Low	Push-Pull	1100
MIC826	Supervisor	✓	✓	–	–40 to +125	1.0–5.5	1.665, 2.188, 2.315, 2.625, 2.925, 3.075, 4.375, 4.625	Active Low/High or High/Low	Push-Pull	140
MIC706P/ R/S/T	Supervisor	✓	✓	✓	–40 to +85	1.5–5.5	2.63, 2.93, 3.08	Active Low	Push-Pull	140
MIC708P/ R/S/T	Supervisor	–	–	✓	–40 to +85	1.5–5.5	2.63, 2.93, 3.08	Active Low/High or High/Low	Push-Pull	140
TC51	Detector	–	–	–	–40 to +85	0.7–10	2.94, 2.65, 2.16 (1.6-6V)	Active Low	Open-Drain	50
TC54	Detector	–	–	–	–40 to +85	0.7–10	4.21, 4.12, 2.94, 2.84, 2.65, 2.06, 1.37 (1.4-6V)	Active Low	CMOS Push-Pull or Open drain	0
MCP111	Detector	–	–	–	–40 to +125	1.0–5.5	1.87(Itemp), 2.29, 2.59, 2.86, 2.87, 3.03, 4.31, 4.56	Active Low	Open-Drain	0
MCP112	Detector	–	–	–	–40 to +125	1.0–5.5	1.87(Itemp), 2.29, 2.59, 2.86, 2.87, 3.03, 4.31, 4.56	Active Low	Push-Pull	0
TC52	Detector	–	–	–	–40 to +85	1.5–10	4.41, 2.65 (1.5-5V)	Active Low	Open-Drain	0
TC53	Detector	–	–	–	–40 to +85	1.5–10	2.84, 2.65, 2.16 (1.6-6V, 7V)	Active Low	CMOS Push-Pull or Open drain	0
MIC2772	Dual	–	✓	–	–40 to +85	1.0–5.5	2.93, 3.08, 4.38, 4.63	Active Low	Open-Drain	20/140/1100
MIC2774N	Dual	–	✓	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67, 2.81, 2.93, 3.09, 4.43, 4.68	Active Low	Open-Drain	140
MIC2774H	Dual	–	✓	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67, 2.81, 2.93, 3.09, 4.43, 4.68	Active High	Push-Pull	140
MIC2774L	Dual	–	✓	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67, 2.81, 2.93, 3.09, 4.43, 4.68	Active Low	Push-Pull	140
MIC2777	Dual	–	–	–	–40 to +85	1.5–5.5	1.69, 2.25, 2.34, 2.53, 2.67,2.81, 2.93, 3.09, 4.43, 4.68	Active Low/High or High/Low	Push-Pull	140
MIC2782	Push Button	–	Dual	–	–40 to +85	1.5–5.5	Custom options	Active Low	Open-Drain	500/1000/2000
MIC2790	Push Button	–	✓	–	–40 to +125	1.5–5.5	0.4	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	1.05
MIC2791	Push Button	–	✓	–	–40 to +125	1.5–5.5	0.4	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	1.05
MIC2793	Push Button	–	✓	–	–40 to +125	1.5–5.5	0.4	Active Low/High or High/Low	Dual Output Open-Drain and/or Push-Pull	1.05

POWER MANAGEMENT: Power MOSFET Drivers

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T_{d1}/T_{d2}, ns)	Rise/Fall Time (T_r/T_f, ns)	Capacitive Load Drive	Features	
Low-Side Power MOSFET Drivers										
MCP1401	Single	Inverting	0.5/0.5	18	12/10	35/35	19/15	470 pF in 19 ns	Small footprint	5-pin SOT
MCP1402	Single	Non-inverting	0.5/0.5	18	12/10	35/35	19/15	470 pF in 19 ns	Small footprint	5-pin SOT
MCP14A0051	Single	Inverting	0.5/0.5	18	12.5/7.5	33/24	40/28	1000 pF in 40 ns	Enable pin, small footprint	6-pin SOT
MCP14A0052	Single	Non-inverting	0.5/0.5	18	12.5/7.5	33/24	40/28	1000 pF in 40 ns	Enable pin, small footprint	6-pin SOT
TC1410N	Single	Non-inverting	0.5/0.5	16	16/16	30/30	25/25	500 pF in 25 ns		8-pin SOI
TC1411N	Single	Non-inverting	1.0/1.0	16	8/8	30/30	25/25	1000 pF in 25 ns		8-pin SOI

POWER MANAGEMENT: Power MOSFET Drivers

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T_{d1}/T_{d2}, ns)	Rise/Fall Time (T_r/T_f, ns)	Capacitive Load Drive	Features	
Low-Side Power MOSFET Drivers										
MIC4416	Single	Non-Inverting	1.2/1.2	18	3.5/3.5	33/23	14/16	1000 pF in 16 ns		SOT-143
MIC4417	Single	Inverting	1.2/1.2	18	3.5/3.5	33/23	14/16	1000 pF in 16 ns		SOT-143
TC1426	Dual	Inverting	1.2/1.2	16	12/8	36/43	23/17	1000 pF in 38 ns		8-pin SOI
TC1427	Dual	Non-inverting	1.2/1.2	16	12/8	36/43	23/17	1000 pF in 38 ns		8-pin SOI
TC1428	Dual	Complimentary	1.2/1.2	16	12/8	36/43	23/17	1000 pF in 38 ns		8-pin SOI
MIC4467	Quad	Inverting	1.2/1.2	18	5/5	30/45	14/13	1000 pF in 25 ns	Latch-up Protected; Input to –5V	16-pin WS
MIC4468	Quad	Non-inverting	1.2/1.2	18	5/5	30/45	14/13	1000 pF in 25 ns	Latch-up Protected; Input to –5V	16-pin WS
MIC4469	Quad	Complimentary	1.2/1.2	18	5/5	30/45	14/13	1000 pF in 25 ns	Latch-up Protected; Input to –5V. SMD	16-pin WS
TC4467	Quad	Inverting	1.2/1.2	18	10/10	40/40	15/15	470 pF in 15 ns		16-pin SO
TC4468	Quad	Non-inverting	1.2/1.2	18	10/10	40/40	15/15	470 pF in 15 ns		16-pin SO
TC4469	Quad	Complimentary	1.2/1.2	18	10/10	40/40	15/15	470 pF in 15 ns		16-pin SO
MCP14A0151	Single	Inverting	1.5/1.5	18	4.5/3	33/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	6-pin SOT
MCP14A0152	Single	Non-inverting	1.5/1.5	18	4.5/3	33/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	6-pin SOT
MCP1415	Single	Inverting	1.5/1.5	18	6/4	44/47	18/21	470 pF in 13 ns	Small footprint	5-pin SOT
MCP1416	Single	Non-inverting	1.5/1.5	18	6/4	44/47	18/21	470 pF in 13 ns	Small footprint	5-pin SOT
MIC4414	Single	Non-inverting	1.5/1.5	18	3.5/3.5	44/47	18/21	1000 pF in 12 ns	Very small footprint	1.2 × 1.2
MIC4415	Single	Inverting	1.5/1.5	18	3.5/3.5	29/30	12/12	1000 pF in 12 ns	Very small footprint	1.2 × 1.2
TC4626	Single	Inverting	1.5/1.5	6	10/8	29/30	33/27	1000 pF in 40 ns	Boosted drive voltage	16-pin SO
TC4627	Single	Non-inverting	1.5/1.5	6	10/8	35/45	33/27	1000 pF in 40 ns	Boosted drive voltage	16-pin SO
TC4404	Single	Inverting	1.5/1.5	18	7/7	15/32	25/25	1000 pF in 30 ns	Open - drain	8-pin SOI
TC4405	Single	Non-inverting	1.5/1.5	18	7/7	15/32	25/25	1000 pF in 30 ns	Open - drain	8-pin SOI
MCP14A0153	Dual	Inverting	1.5/1.5	18	4.5/3	25/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	8-pin SOI
MCP14A0154	Dual	Non-inverting	1.5/1.5	18	4.5/3	25/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	8-pin SOI
MCP14A0155	Dual	Complimentary	1.5/1.5	18	4.5/3	25/24	11/10	1000 pF in 11.5 ns	Low Input Threshold and Enable Pin	8-pin SOI
TC4426A	Dual	Inverting	1.5/1.5	18	7/7	30/30	25/25	1000 pF in 25 ns		8-pin SOI
TC4427A	Dual	Non-inverting	1.5/1.5	18	7/7	30/30	25/25	1000 pF in 25 ns		8-pin SOI
TC4428A	Dual	Complimentary	1.5/1.5	18	7/7	30/30	25/25	1000 pF in 25 ns		8-pin SOI
MIC4426	Dual	Inverting	1.5/1.5	18	6/6	17/23	18/15	1000 pF in 18 ns		8-pin SOI
MIC4427	Dual	Non-inverting	1.5/1.5	18	6/6	17/23	18/15	1000 pF in 18 ns		8-pin SOI
MIC4428	Dual	Complimentary	1.5/1.5	18	6/6	17/23	18/15	1000 pF in 18 ns		8-pin SOI
MIC4126	Dual	Inverting	1.5/1.5	20	6/6	37/40	13/15	1000 pF in 15 ns		8-pin eSO
MIC4127	Dual	Non-inverting	1.5/1.5	20	6/6	37/40	13/15	1000 pF in 15 ns		8-pin eSO
MIC4128	Dual	Complimentary	1.5/1.5	20	6/6	37/40	13/15	1000 pF in 15 ns		8-pin eSO
MCP14E6	Dual	Inverting	2.0/2.0	18	5/5	45/45	12/15	1000 pF in 15 ns	Enable pin	8-pin SOI
MCP14E7	Dual	Non-inverting	2.0/2.0	18	5/5	45/45	12/15	1000 pF in 15 ns	Enable pin	8-pin SOI
MCP14E8	Dual	Complimentary	2.0/2.0	18	5/5	45/45	12/15	1000 pF in 15 ns	Enable pin	8-pin SOI
TC1412	Single	Inverting	2.0/2.0	16	4/4	35/35	18/18	1000 pF in 18 ns		8-pin SOI
TC1412N	Single	Non-Inverting	2.0/2.0	16	4/4	35/35	18/18	1000 pF in 18 ns		8-pin SOI

POWER MANAGEMENT: Power MOSFET Drivers

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T_{d1}/T_{d2}, ns)	Rise/Fall Time (T_r/T_f, ns)	Capacitive Load Drive	Features	
Low-Side Power MOSFET Drivers										
MIC4478	Dual	Non-Inverting	2.5/2.5	32	6/3	160/70	120/45	1,000pF in 45 ns		8-pin SOI
MIC4479	Dual	Inverting	2.5/2.5	32	6/3	160/70	120/45	1,000pF in 45 ns		8-pin SOI
MIC4480	Dual	Complimentary	2.5/2.5	32	6/3	160/70	120/45	1,000pF in 45 ns		8-pin SOI
TC4423A	Dual	Inverting	3.0/3.0	18	2.2/2.8	40/41	12/12	1800 pF in 12 ns		8-pin SOI
TC4424A	Dual	Non-Inverting	3.0/3.0	18	2.2/2.8	40/41	12/12	1800 pF in 12 ns		8-pin SOI
TC4425A	Dual	Complimentary	3.0/3.0	18	2.2/2.8	40/41	12/12	1800 pF in 12 ns		8-pin SOI
MCP14E9	Dual	Inverting	3.0/3.0	18	4/4	45/45	14/17	1800 pF in 17 ns	Enable pin	8-pin SOI
MCP14E10	Dual	Non-Inverting	3.0/3.0	18	4/4	45/45	14/17	1800 pF in 17 ns	Enable pin	8-pin SOI
MCP14E11	Dual	Complimentary	3.0/3.0	18	4/4	45/45	14/17	1800 pF in 17 ns	Enable Pin	8-pin SOI
MCP14A0301	Single	Interverting	3.0/3.0	18	2.2/1.5	15/18	13/12	1,800 pF in 13 ns	Low Input Threshold, Enable Pin	8-pin MS
MCP14A0302	Single	Non-Inverting	3.0/3.0	18	2.2/1.5	15/18	13/12	1,800 pF in 13 ns	Low Input Threshold and Enable Pin	8-pin MS
TC1413N	Single	Non-Inverting	3.0/3.0	16	2.7/2.7	35/35	20/20	1800 pF in 20 ns		8-pin SOI
MIC4123	Dual	Inverting	3.0/3.0	20	5/5	44/59	11/11	1,800 pF in 11 ns		8-pin eSO
MIC4124	Dual	Non-Inverting	3.0/3.0	20	5/5	44/59	11/11	1,800 pF in 11 ns		8-pin eSO
MIC4125	Dual	Complimentary	3.0/3.0	20	5/5	44/59	11/11	1,800 pF in 11 ns		8-pin eSO
MIC4423	Dual	Inverting	3.0/3.0	18	5/5	33/38	23/25	1,800 pF in 23ns		8-pin SOI
MIC4424	Dual	Non-Inverting	3.0/3.0	18	5/5	33/38	23/25	1,800 pF in 23ns		8-pin SOI
MIC4425	Dual	Complimentary	3.0/3.0	18	5/5	33/38	23/25	1,800 pF in 23ns		8-pin SOI
MIC4223	Dual	Inverting	4.0/4.0	18	30/16	25/35	15/15	2000 pF in 15 ns	Enable pin	8-pin SOI
MIC4224	Dual	Non-Inverting	4.0/4.0	18	30/16	25/35	15/15	2000 pF in 15 ns	Enable pin	8-pin SOI
MIC4225	Dual	Complimentary	4.0/4.0	18	30/16	25/35	15/15	2000 pF in 15 ns	Enable pin	8-pin SOI
MCP14E3	Dual	Inverting	4.0/4.0	18	2.5/2.5	46/50	15/18	2200 pF in 15 ns	Enable pin	8-pin SOI
MCP14E4	Dual	Non-Inverting	4.0/4.0	18	2.5/2.5	46/50	15/18	2200 pF in 15 ns	Enable pin	8-pin SOI
MCP14E5	Dual	Complimentary	4.0/4.0	18	2.5/2.5	46/50	15/18	2200 pF in 15 ns	Enable pin	8-pin SOI
MCP1403	Dual	Inverting	4.5/4.5	18	2.2/2.8	40/40	15/18	2200 pF in 15 ns		8-pin SOI
MCP1404	Dual	Non-Inverting	4.5/4.5	18	2.2/2.8	40/40	15/18	2200 pF in 15 ns		8-pin SOI
MCP1405	Dual	Complimentary	4.5/4.5	18	2.2/2.8	40/40	15/18	2200 pF in 15 ns		8-pin SOI
MCP14A0451	Single	Inverting	4.5/4.5	18	1.6/1.2	16/19	9/9	2200 pF in 9.5 ns	Low Input Threshold, Enable	8-pin SOI
MCP14A0452	Single	Non-Inverting	4.5/4.5	18	1.6/1.2	16/19	9/9	2200 pF in 9.5 ns	Low Input Threshold, Enable	8-pin SOI
MIC4120	Single	Non-Inverting	6.0/6.0	20	5/5	45/50	12/13	2200 pF in 12 ns		8-pin eSO
MIC4129	Single	Inverting	6.0/6.0	20	5/5	45/50	12/13	2200 pF in 12 ns		8-pin eSO
MCP14A1201	Single	Inverting	12/12	18	1.5/1.2	28/28	25/25	15,000 pF in 25 ns	Low Input Theshold and Enable	8-Lead M
MCP14A1202	Single	Non-Inverting	12/12	18	1.5/1.2	28/28	25/25	15,000 pF in 25 ns	Low Input Theshold and Enable	8-Lead M
MIC4420	Single	Non-Inverting	6.0/6.0	18	2.8/2.5	18/48	12/13	2200 pF in 12 ns		8-pin SOI CerDIP
MIC4429	Single	Inverting	6.0/6.0	18	2.8/2.5	18/48	12/13	2200 pF in 12 ns		8-pin SOI
MIC44F18	Single	Non-Inverting	6.0/6.0	13	2/2	15/13	10/10	1000 pF In 10 ns	Enable pin	8-pin eMS
MIC44F19	Single	Inverting	6.0/6.0	13	2/2	15/13	10/10	1000 pF In 10 ns	Enable pin	8-pin eMS
MIC44F20	Single	Inverting	6.0/6.0	13	2/2	15/13	10/10	1000 pF In 10 ns	Enable pin	8-pin eMS

POWER MANAGEMENT: Power MOSFET Drivers

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T_{d1}/T_{d2}, ns)	Rise/Fall Time (T_r/T_f, ns)	Capacitive Load Drive	Features	
Low-Side Power MOSFET Drivers										
MCP1406	Single	Inverting	6.0/6.0	18	2.1/1.5	40/40	20/20	2500 pF in 20 ns		8-pin SOI
MCP1407	Single	Non-Inverting	6.0/6.0	18	2.1/1.5	40/40	20/20	2500 pF in 20 ns		8-pin SOI
MCP14A0601	Single	Inverting	6.0/6.0	18	2.0/2.3	29/29	15/15	2500 pF in 10 ns	Low Logic Input, Enable	8-pin SOI
MCP14A0602	Single	Non-Inverting	6.0/6.0	18	2.0/2.3	29/29	15/15	2500 pF in 10 ns	Low Logic Input, Enable	8-pin SOI
TC4421A	Single	Inverting	9.0/9.0	18	1.25/0.8	38/42	28/26	4700 pF in 15 ns		8-pin SOI
TC4422A	Single	Non-Inverting	9.0/9.0	18	1.25/0.8	38/42	28/26	4700 pF in 15 ns		8-pin SOI
MIC4421A	Single	Inverting	9.0/9.0	18	0.8/0.6	15/35	20/24	10,000 pF in 24 ns		8-pin PDI
MIC4422A	Single	Non-Inverting	9.0/9.0	18	0.8/0.6	15/35	20/24	10,000 pF in 24 ns		8-pin PDI
MIC4451	Single	Inverting	12.0/12.0	18	0.8/0.6	25/40	20/24	10,000 pF in 24 ns		8-pin PDI
MIC4452	Single	Non-Inverting	12.0/12.0	18	0.8/0.6	25/40	20/24	10,000 pF in 24 ns		8-pin PDI
TC4451	Single	Inverting	12.0/12.0	18	1.0/0.9	44/44	30/32	10,000 pF in 21 ns		8-pin SOI
TC4452	Single	Non-Inverting	12.0/12.0	18	1.0/0.9	44/44	30/32	10,000 pF in 21 ns		8-pin SOI

POWER MANAGEMENT: Power MOSFET Drivers (Continued)

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T_{d1}/T_{d2}, ns)	Rise/Fall Time (T_r/T_f, ns)	Capacitive Load Drive	Features
High-Side Power MOSFET Drivers									
TC4431	High-Side Single	Inverting	3.0/1.5	30	7/7	62/78	25/33	1000 pF in 25 ns	30V, high-side driver
TC4432	High-Side Single	Non-inverting	3.0/1.5	30	7/7	62/78	25/33	1000 pF in 25 ns	30V, high-side driver
TC4403	Floating Load Driver	Non-inverting	1.5/1.5	18	2.8/3.5	33/38	28/32	1800 pF in 25 ns	Floating load driver
MIC5011	High-Side or Low Side Single	Non-Inverting	950 µA*	32	N/A	N/A	25 µs/4 µs	1000 pF in 60 µs	Less than 1 µA in Standb Mode
MIC5013	High-Side or Low Side Single	Non-Inverting	225 µA*	32	N/A	N/A	60 µs/4 µs	1000 pF in 60 µs	With over-current shutdown and a fault flag
MIC5014	High-Side or Low Side Single	Non-Inverting	800 µA*	30	N/A	N/A	90 µs/6 µs	1000 pF in 90 µs	Withstands 60V transient and Reverse battery protected to –20V
MIC5015	High-Side or Low Side Single	Inverting	800 µA*	30	N/A	N/A	90 µs/6 µs	1000 pF in 90 µs	Withstands 60V transient and Reverse battery protected to –20V
MIC5018	High-Side or Low Side Single	Non-Inverting	10 µA*	9	N/A	N/A	750 µs/10 µs	3,000 pF in 2.1 ms	Small Package
MIC5019	High-Side or Low Side Single	Non-Inverting	10 µA*	9	N/A	N/A	440 µs/5.56 µs	3,000 pF in 1.34 ms	Ultra Small 1.2 × 1.2 mm DFN
MIC5021	High-Side or Low Side Single	Non-Inverting	5600 µA*	36	N/A	500/800	400 ns/400 ns	2,000 pF in 550 ns	100 kHz operation guaranteed over full temperature and operatir voltage range
MIC5060	High-Side or Low Side Single	Non-Inverting	800 µA*	30	N/A	N/A	90 µs/6 µs	1,000 pF in 90 µs	Withstands 60V transient and Reverse battery protected to –20V

POWER MANAGEMENT: Power MOSFET Drivers (Continued)

Part #	Drivers	Configuration	Peak Output Current (source/sink, A)	Maximum Supply Voltage (V)	Output Resistance (source/sink, Ω)	Propagation Delay (T_{d1}/T_{d2}, ns)	Rise/Fall Time (T_r/T_f, ns)	Capacitive Load Drive	
Synchronous Power MOSFET Drivers									
MCP14628	Half Bridge Driver	Dual Inputs	2.0/3.5	5.5 (36V Boot Pin)	1/1 (0.5 on low side)	15/22	10/10	3300 pF in 10 ns	Continuous ou operation
MCP14700	Half Bridge Driver	Dual Inputs	2.0/3.5	5.5 (36V Boot Pin)	1/1 (0.5 on low side)	15/22	10/10	3300 pF in 10 ns	Allows externa
MIC4100	Half Bridge Driver	Dual Inputs	2.0/2.0	16 (100V Boot Pin)	3.0/3.0	27/27	10/10	1000 pF in 10 ns	
MIC4101	Half Bridge Driver	Dual Inputs	2.0/2.0	16 (100V Boot Pin)	3.0/3.0	31/31	10/10	1000 pF in 10 ns	
MIC4102	Half Bridge Driver	Single PWM	3.0/2.0	16 (100V Boot Pin)	2.5/1.5	60/70	10/6	1000 pF in 10 ns	Adaptive Dead Through Circu
MIC4103	Half Bridge Driver	Dual Inputs	3.0/2.0	16 (100V Boot Pin)	2.5/1.25	24/24	10/6	1000 pF in 10 ns	
MIC4104	Half Bridge Driver	Dual Inputs	3.0/2.0	16 (100V Boot Pin)	2.5/1.25	24/24	10/6	1000 pF in 10 ns	
MIC4600	Half Bridge Driver	Dual Inputs, Single PWM	–	28V	–	–	15/13.5	3000 pF in 15 ns	Internal 5V LD
MIC4604	Half Bridge Driver	Dual Inputs	1.0/1.0	16V (85V Boot Pin)	–	33/34	20/20	1000 pF in 20 ns	Small 2.5 × 2.
MIC4605	Half Bridge Driver	Dual Inputs, Single PWM	1.0/1.0	16V (85V Boot Pin)	–	35/35	20/20	1000 pF in 20 ns	Adaptive Dead Through Circu
MIC4606	Full Bridge Driver	Dual Inputs, Single PWM	1.0/1.0	16V (85V Boot Pin)	–	35/35	20/20	1000 pF in 20 ns	Adaptive Dead Through Circu

*Charge pump current

POWER MANAGEMENT: Battery Chargers

Part #	Mode	Cell Type	# of Cells	Vcc Range (V)	Cell Voltage (V)	Maximum Charging Current (mA)	Max. Voltage Regulation (%)	Int/Ext FET	Features
MCP73113	Linear	Li-ion/Li-Polymer	1	4 to 16	4.1, 4.2, 4.35, 4.4	1100	±0.5	Int	6.5V Overvoltage Protection
MCP73114	Linear	Li-ion/Li-Polymer	1	4 to 16	4.1, 4.2, 4.35, 4.4	1100	±0.5	Int	5.8V Overvoltage Protection
MCP73123	Linear	LiFePO4	1	4 to 16	3.6	1100	±0.5	Int	6.5V Overvoltage Protection, LiFePO4 charging
MCP73213	Linear	Li-ion/Li-Polymer	2	4 to 16	8.2, 8.4, 8.7, 8.8	1100	±0.6	Int	13V Overvoltage Protection
MCP73223	Linear	LiFePO4	2	4 to 16	7.2	1100	±0.6	Int	13V Overvoltage Protection, LiFePO4 charging
MCP73826	Linear	Li-Ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	N/A	±1.0	Ext	Small size, charge current set by external FET
MCP73827	Linear	Li-Ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	N/A	±1.0	Ext	Mode indicator, Charge current monitor, Charge cur
MCP73828	Linear	Li-Ion/Li Polymer	1	4.5 to 5.5	4.1, 4.2	N/A	±1.0	Ext	Temperature monitor, Charge current set by externa
MCP73841	Linear	Li-Ion/Li-Polymer	1	4.5 to 12	4.1, 4.2	N/A	±0.5	Ext	Safety charge timers, Temperature monitor, Charge cu
MCP73841	Linear	Li-Ion/Li-Polymer	1	4.5 to 12	4.1, 4.2	N/A	±0.5	Ext	Safety charge timers, Temperature monitor, Charge external FET
MCP73842	Linear	Li-Ion/Li-Polymer	2	8.7 to 12	8.2, 8.4	N/A	±0.5	Ext	Safety charge timers, Temperature monitor, Charge external FET
MCP73843	Linear	Li-Ion/Li-Polymer	1	4.5 to 12	4.1, 4.2	N/A	±0.5	Ext	Safety charge timers, Charge current set by external
MCP73844	Linear	Li-Ion/Li-Polymer	2	8.7 to 12	8.2, 8.4	N/A	±0.5	Ext	Safety charge timers, Charge current set by external
MCP73811	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2	500	±1.0	Int	Selectable charge current (100 mA, 500 mA), Charg
MCP73812	Linear	Li-Ion/Li Polymer	1	3.7 to 6.0	4.2	500	±1.0	Int	Programmable charge current (100 mA, 500 mA), C
MCP73830/L	Linear	Li-Ion/Li-Polymer	1	3.75 to 6.0	4.2	1000/200	±0.75	Int	Soft-start, Charge enable pin

POWER MANAGEMENT: Battery Chargers

Part #	Mode	Cell Type	# of Cells	Vcc Range (V)	Cell Voltage (V)	Maximum Charging Current (mA)	Max. Voltage Regulation (%)	Int/Ext FET	Features
MCP73831	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	500	±0.75	Int	UVLO, Thermal regulation, Programmable charge cu
MCP73832	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	500	±0.75	Int	UVLO, Thermal regulation, Programmable charge cu Open-drain STAT pin
MCP73853	Linear	Li-Ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	500	±0.5	Int	USB control, Safety charge timers, Temperature mo
MCP73855	Linear	Li-Ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	500	±0.5	Int	USB control, Safety charge timers, Thermal regulatio
MCP73833	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	UVLO, Thermal regulation, Thermistor input, LDO Te outputs, Safety timer, Power good output
MCP73834	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	UVLO, Thermal regulation, Thermistor input, LDO Te outputs, Safety timer, Timer enable input
MCP73837	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	Dual input (USB, DC input from adapter) auto-switch regulation, Thermistor input, Power good output
MCP73838	Linear	Li-Ion/Li Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	Dual input (USB, DC input from adapter) auto-switch regulation, Timer enable input
MCP73843	Linear	Li-Ion/Li-Polymer	1	4.5 to 12	4.1, 4.2	N/A	±0.5	Ext	Safety charge timers, Charge current set by external
MCP73844	Linear	Li-Ion/Li-Polymer	2	8.7 to 12	8.2, 8.4	N/A	±0.5	Ext	Safety charge timers, Charge current set by external
MCP73811	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2	500	±1.0	Int	Selectable charge current (100 mA, 500 mA), Charg
MCP73812	Linear	Li-Ion/Li Polymer	1	3.7 to 6.0	4.2	500	±1.0	Int	Programmable charge current (100 mA, 500 mA), Cl
MCP73830/L	Linear	Li-Ion/Li-Polymer	1	3.75 to 6.0	4.2	1000/200	±0.75	Int	Soft-start, Charge enable pin
MCP73831	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	500	±0.75	Int	UVLO, Thermal regulation, Programmable charge cu
MCP73832	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	500	±0.75	Int	UVLO, Thermal regulation, Programmable charge cu Open-drain STAT pin
MCP73853	Linear	Li-Ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	500	±0.5	Int	USB control, Safety charge timers, Temperature mo
MCP73855	Linear	Li-Ion/Li-Polymer	1	4.5 to 5.5	4.1, 4.2	500	±0.5	Int	USB control, Safety charge timers, Thermal regulatio
MCP73833	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	UVLO, Thermal regulation, Thermistor input, LDO Te outputs, Safety timer, Power good output
MCP73834	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	UVLO, Thermal regulation, Thermistor input, LDO Te outputs, Safety timer, Timer enable input
MCP73837	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	Dual input (USB, DC input from adapter) auto-switch regulation, Thermistor input, Power good output
MCP73838	Linear	Li-Ion/Li Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	Dual input (USB, DC input from adapter) auto-switch regulation, Timer enable input
MCP73871	Linear	Li-Ion/Li-Polymer	1	3.75 to 6.0	4.1, 4.2, 4.35, 4.4	1500 (A/C Adapter) 500 (USB)	±0.5	Int	Simultaneous charging of load and battery, Load-de programmable charge currents

POWER MANAGEMENT: Hot Swap Controllers & E-Fuse

Part #	Number of Outputs	Input Voltage Range (V)	Latch Off	Auto Retry	OVLO	UVLO	Number of Power Good	Description
MIC2085	1	+2.3 to +16.5	✓	–	Adjustable	Adjustable	–	Pin-Pin equivalent to LTC1642
MIC2582	1	+2.3 to +13.2	✓	–	–	Adjustable	–	Pin-Pin equivalent to LTC1422, dual-level fault detection
MIC2583	1	+2.3 to +13.2	✓	–	–	Adjustable	1 Active High	Dual level fault detection, CL discharge capability
MIC2583R	1	+2.3 to +13.2	–	✓	–	Adjustable	1 Active High	Dual level fault detection, CL discharge capability
MIC2584	2	Ch 1: +2.3 to +13.2 Ch 2: +1.0 to +13.2	✓	–	Adjustable	Adjustable	2 Active High	Output voltage tracking with dual-level fault tracking
MIC2587	1	+10 to +80	✓	–	–	Adjustable	1 Active High/Low	Pin-pin equivalent to LTC1641-1
MIC2587R	1	+10 to +80	–	✓	–	Adjustable	1 Active High/Low	Pin-pin equivalent to LTC1641-2

POWER MANAGEMENT: Hot Swap Controllers & E-Fuse

Part #	Number of Outputs	Input Voltage Range (V)	Latch Off	Auto Retry	OVLO	UVLO	Number of Power Good	Description
MIC2588	1	–19 to –80	✓	–	Adjustable	Adjustable	1 Active High/Low	Pin-pin equivalent to LTC1640, LT1640A, LT4250
MIC2594	1	–19 to –80	✓	–	Adjustable	Adjustable	1 Active High/Low	MIC2588 with programmable UVLO hysteresis
MIC2595	1	–19 to –80	✓	–	Adjustable	Adjustable	3 Active High/Low	Staggered power good provides load sequencing, progr
MIC2595R	1	–19 to –80	–	✓	Adjustable	Adjustable	3 Active High/Low	Staggered power good provides load sequencing, progr
LX8237	2	4.3 to 13.2	✓	–	-	Fixed	-	Dual E-Fuse for 12V and 5V, Dual Power Regulators, I²C Monitoring, power disable support

POWER MANAGEMENT: Power Switches

Part #	Description	USB Port Power Switch (55 mΩ)	High-Speed USB 2.0 Switch	Battery Charger Emulation Profile	8 Resistor Set Current Limits	Charging Indicator Output	Attach Detection Output	Current Measurement	Pow Alloca
USB Port Power Controllers									
UCS1001-1	USB Port Power Controller with Charger Emulation	1	1	9	Up to 2.4A	✓	–	–	–
UCS1001-2	USB Port Power Controller with Charger Emulation	1	1	9	Up to 2.4A	–	✓	–	–
UCS1001-3	USB Port Power Controller with Charger Emulation	1	1	9	Up to 2.4A	✓	–	–	–
UCS1001-4	USB Port Power Controller with Charger Emulation	1	1	9	Up to 2.4A	–	✓	–	–
UCS1002-1	Programmable USB Port Power Controller with Charger Emulation	1	1	9 + 1 programmable	Up to 2.4A	✓	–	✓	✓
UCS1002-2	Programmable USB Port Power Controller with Charger Emulation	1	1	9 + 1 programmable	Up to 2.4A	✓	–	✓	✓
UCS1003-1	Programmable USB Port Power Controller with Charger Emulation	1	1	9 + 1 programmable	Up to 3A	–	✓	✓	✓
UCS1003-2	Programmable USB Port Power Controller with Charger Emulation	1	1	9	Up to 3A	✓	–	–	–
UCS1003-3	Programmable USB Port Power Controller with Charger Emulation	1	1	9	Up to 3A	–	✓	–	–
UCS81003	Programmable USB Port Power Controller Automotive	1	1	9 + 1 programmable	Up to 3A	–	✓	✓	✓

POWER MANAGEMENT: Power Switches (Continued)

Current Limit USB Protection Switches

Part #	Channels	V_{IN} Range (V)	Fixed Current Limit (Min.)	Adj. Current Limit (Max.)	$R_{DS(ON)}$ (mΩ)	Current Limited/ Latched	Reverse Blocking	Enable Logic	ULVO	Thermal Protection	Fault Flag
UCS2114	Dual	2.9–5.5	3.0A	3.4A	18	✓	✓	Active Low, Active High	✓	✓	✓
UCS2113	Dual	2.9–5.5	3.0A	3.4A	40	✓	✓	Active Low, Active High	✓	✓	✓
UCS2112	Dual	2.9–5.5	3.0A	3.4A	40	✓	✓	Active Low, Active High	✓	✓	✓
MIC2003/13	Single	2.5–5.5	500 mA, 800 mA, 1.2A	–	70	✓	–	–	✓	✓	–
MIC2004/14	Single	2.5–5.5	500 mA, 800 mA, 1.2A	–	70	✓	–	Active High	✓	✓	–
MIC2005/15	Single	2.5–5.5	500 mA, 800 mA, 1.2A	–	70	✓	–	Active High	✓	✓	✓
MIC2005A	Single	2.5–5.5	500 mA	–	170	✓	–	Active Low, Active High	✓	✓	✓
MIC2009A	Single	2.5–5.5	–	900 mA	170	✓	–	Active Low, Active High	✓	✓	–
MIC2005L	Single	2.5–5.5	500 mA, 800 mA, 1.2A	–	70	✓	–	Active Low	✓	✓	✓
MIC2007/17	Single	2.5–5.5	–	2.0A	100	✓	–	Active High	✓	✓	–
MIC2008/18	Single	2.5–5.5	–	2.0A	70	✓	–	Active High	✓	✓	–
MIC2009/19	Single	2.5–5.5	–	2.0A	70	✓	–	Active High	✓	✓	✓
MIC2025-1	Single	2.7–5.5	500 mA	–	140	✓	✓	Active High	✓	✓	✓
MIC2025-2	Single	2.7–5.5	500 mA	–	140	✓	✓	Active Low	✓	✓	✓

POWER MANAGEMENT: Power Switches (Continued)

Current Limit USB Protection Switches

Part #	Channels	V_{IN} Range (V)	Fixed Current Limit (Min.)	Adj. Current Limit (Max.)	$R_{DS(ON)}$ (mΩ)	Current Limited/ Latched	Reverse Blocking	Enable Logic	ULVO	Thermal Protection	Fault Flag
MIC2026-1	Dual	2.7–5.5	500 mA	–	90	✓	✓	Active High	✓	✓	✓
MIC2026-2	Dual	2.7–5.5	500 mA	–	90	✓	✓	Active Low	✓	✓	✓
MIC2026A-1	Dual	2.7–5.5	500 mA	–	100	✓	✓	Active High	✓	✓	✓
MIC2026A-2	Dual	2.7–5.5	500 mA	–	100	✓	✓	Active Low	✓	✓	✓
MIC2027-1	Quad	2.7–5.5	500 mA	–	150	✓	✓	Active High	✓	✓	✓
MIC2027-2	Quad	2.7–5.5	500 mA	–	150	✓	✓	Active Low	✓	✓	✓
MIC2033	Single	2.5–5.5	475 mA, 517 mA, 760 mA, 950 mA, 1.14A	–	125	✓	–	Active Low, Active High	✓	✓	✓
MIC2039	Single	2.5–5.5	–	2.5A	75	✓	–	Active Low, Active High	✓	✓	✓
MIC2040-1	Single	0.8–5.5	–	1.5A	75	✓	✓	Active High	✓	✓	✓
MIC2040-2	Single	0.8–5.5	–	1.5A	75	✓	✓	Active Low	✓	✓	✓
MIC2041-1	Single	0.8–5.5	–	1.5A	75	Latched	✓	Active High	✓	✓	✓
MIC2041-2	Single	0.8–5.5	–	1.5A	75	Latched	✓	Active Low	✓	✓	✓
MIC2042-1	Single	0.8–5.5	–	3.0A	60	✓	✓	Active High	✓	✓	✓
MIC2042-2	Single	0.8–5.5	–	3.0A	60	✓	✓	Active Low	✓	✓	✓
MIC2043-1	Single	0.8–5.5	–	3.0A	60	Latched	✓	Active High	✓	✓	✓
MIC2043-2	Single	0.8–5.5	–	3.0A	60	Latched	✓	Active Low	✓	✓	✓
MIC2044-1	Single	0.8–5.5	–	6.0A	30	✓	✓	Active High	✓	✓	✓
MIC2044-2	Single	0.8–5.5	–	6.0A	30	✓	✓	Active Low	✓	✓	✓

*Reduced Height Package

POWER MANAGEMENT: Load Switches

Part #	Channels	V_{IN} Range (V)	Max. Switch Current	$R_{DS(ON)}$ (mΩ)	Soft Start (µs)	Load Discharge (Ω)	Enable Logic	Input Pull-Up Resistor	Reverse
MIC94030	Single	2.7–13.5	1.0	750	–	–	Active Low	–	
MIC94040	Single	1.7–5.5	3.0	28	–	–	Active High	–	
MIC94041	Single	1.7–5.5	3.0	28	–	250	Active High	–	
MIC94042	Single	1.7–5.5	3.0	28	100	–	Active High	–	
MIC94043	Single	1.7–5.5	3.0	28	–	250	Active High	–	
MIC94044	Single	1.7–5.5	3.0	28	900	–	Active High	–	
MIC94045	Single	1.7–5.5	3.0	28	900	200	Active High	–	
MIC94050	Single	1.8–5.5	1.8	125	–	–	Active Low	–	
MIC94051	Single	1.8–5.5	1.8	125	–	–	Active Low	✓	
MIC94052	Single	1.8–5.5	2.0	70	–	–	Active Low	–	
MIC94053	Single	1.8–5.5	2.0	70	–	–	Active Low	✓	
MIC94060	Single	1.7–5.5	2.0	77	–	–	Active High	–	
MIC94061	Single	1.7–5.5	2.0	77	–	200	Active High	–	
MIC94062	Single	1.7–5.5	2.0	77	800	–	Active High	–	
MIC94063	Single	1.7–5.5	2.0	77	800	200	Active High	–	
MIC94064	Single	1.7–5.5	2.0	77	115	–	Active High	–	

POWER MANAGEMENT: Load Switches									
Part #	Channels	V_{IN} Range (V)	Max. Switch Current	$R_{DS(ON)}$ (mΩ)	Soft Start (µs)	Load Discharge (Ω)	Enable Logic	Input Pull-Up Resistor	Revers
MIC94065	Single	1.7–5.5	2.0	77	115	200	Active High	–	
MIC94070	Single	1.7–5.5	1.2	120	–	–	Active High	–	
MIC94071	Single	1.7–5.5	1.2	120	–	200	Active High	–	
MIC94072	Single	1.7–5.5	1.2	120	800	–	Active High	–	
MIC94073	Single	1.7–5.5	1.2	120	800	200	Active High	–	
MIC94080	Single	1.7–5.5	2.0	67	–	–	Active High	–	
MIC94081	Single	1.7–5.5	2.0	67	–	250	Active High	–	
MIC94082	Single	1.7–5.5	2.0	67	800	–	Active High	–	
MIC94083	Single	1.7–5.5	2.0	67	800	250	Active High	–	
MIC94084	Single	1.7–5.5	2.0	67	120	–	Active High	–	
MIC94085	Single	1.7–5.5	2.0	67	120	250	Active High	–	
MIC94090	Single	1.7–5.5	1.2	130	–	–	Active High	–	
MIC94091	Single	1.7–5.5	1.2	130	–	250	Active High	–	
MIC94092	Single	1.7–5.5	1.2	130	790	–	Active High	–	
MIC94093	Single	1.7–5.5	1.2	130	790	250	Active High	–	
MIC94094	Single	1.7–5.5	1.2	130	120	–	Active High	–	
MIC94095	Single	1.7–5.5	1.2	130	120	250	Active High	–	
MIC94161	Single	1.7–5.5	3.0	15.5	2700	–	Active High	–	
MIC94162	Single	1.7–5.5	3.0	15.5	60	200	Active High	–	
MIC94163	Single	1.7–5.5	3.0	15.5	60	–	Active High	–	
MIC94164	Single	1.7–5.5	3.0	15.5	2700	200	Active High	–	
MIC94165	Single	1.7–5.5	3.0	15.5	2700	–	Active High	–	
MIC95410	Single	0.5–5.5	7.0	6.6	1100	2300	Active High	–	
MIC94066	Dual	1.7–5.5	2	85	–	–	Active High	–	
MIC94067	Dual	1.7–5.5	2	85	–	200	Active High	–	
MIC94068	Dual	1.7–5.5	2	85	800	–	Active High	–	
MIC94069	Dual	1.7–5.5	2	85	800	200	Active High	–	

*Reduced Height Package

POWER MANAGEMENT: Reverse Power Feed					
Part #	Application	FETs	Interface	Operating Temperature	Ports
PD81000	PSE for CPE	N/A	I²C	-40 to +85	1
PD81101	PSE for CPE	Internal 0.2Ω	I²C	-40 to +85	1
PD82000	PD for DPU	N/A	I²C	-40 to +85	4 to 16

DISPLAY AND LED DRIVERS

DISPLAY AND LED DRIVERS: Electroluminescent Backlight Drivers							
Part #	**Type**	**Input Voltage Low (V)**	**Input Voltage High (V)**	**Nominal Output Voltage (V)**	**Max. Switch Resistance (Ω)**	**Output Regulation**	**Max. Lamp Size per D**
16-Segment Drivers							
HV509	16-Segment Drivers	2	5.5	±50 to ±200	–	–	6.5
HV528	16-Segment Drivers	1.7	5.5	±50 to ±200	–	–	6.5
Offline Drivers							
HV809	Offline Driver	50	200	±50 to ±200	–	–	100
Single Lamp Drivers							
HV816	Single Lamp Driver	2.7	5.5	±180	–	Yes	42
HV823	Single Lamp Driver	2	9.5	±90	6	Yes	23
HV825	Single Lamp Driver	1	1.6	±56	15	No	3
HV830	Single Lamp Driver	2	9.5	±100	4	Yes	25
HV833	Single Lamp Driver	1.8	6.5	±90	4	Yes	12
HV850	Single Inductorless Lamp Driver	3	4.2	±70	–	Yes	1.5
HV852	Single Inductorless Lamp Driver	2.4	5	±80	–	Yes	1.5
HV853	Single Inductorless Lamp Driver	3.2	5	±80	–	Yes	1.5
HV857	Single Lamp Driver	1.8	5	±95	6	Yes	5
HV857L	Single Lamp Driver	1.8	5	±95	6	Yes	5
HV859	Single Lamp Driver	1.8	5	±105	6	Yes	5
HV860	Single Lamp Driver	2.5	4.5	±110	6	Yes	5
MIC4826	Single Lamp Driver	1.8	5.5	±80	7	Yes	3
MIC4827	Single Lamp Driver	1.8	5.5	±90	7	Yes	3
MIC4830	Single Lamp Driver	1.8	5.5	±90	7	Yes	4
MIC4832	Single Lamp Driver	1.8	5.5	±110	7	Yes	3
Dual Lamp Drivers							
HV861	Dual Lamp Drivers	2.5	4.5	±90	7	Yes	5
MIC4833	Dual Lamp Drivers	2.3	5.8	±110	12	Yes	4

DISPLAY AND LED DRIVERS: LED Drivers						
Part #	**Application**	**Topology**	**Input Voltage (V)**	**Ouput Current**	**Dimming**	
Automotive (AEC-Q100 Certified) LED Drivers						
AT9917	Auto	Boost, Sepic	5.3–40	External FET	PWM/Linear	24- pin TS
AT9919	Auto	Buck	4.5–40	External FET	PWM	8-pin DFN
AT9932	Auto	Boost-Buck (Ćuk)	5.3–40	External FET	PWM/Linear	24-pin TS
AT9933	Auto	Boost-Buck (Ćuk)	9.0–75	External FET	PWM	8-pin SOI
MAQ3203	Auto	Buck	4.5-42	External FET	PWM	8-pin SOI

General Purpose LED Drivers									
Part #	**Topology**	**Input Voltage (V)**	**Dimming**	**I_Q Typ. (mA)**	**Switching Frequency (Hz)**	**Switching MOSFET**	**Dithered**	**ILED Accuracy**	**V_{FB}**
HV9801A	Buck	15–450	4-Level Switch	1.0	100K	External FET	–	N/A	0.2
HV9803B	Buck	7–13.2	PWM/Linear	1.5	100K	External FET	–	±2%	0.2
HV9805	2-Stage	102–265	–	2.5	370K	0.7A FET	–	N/A	1.2
HV98100	Buck-Boost	9.5–17.5	–	0.2	320K	External FET	–	±5%	0.2
HV98101	Buck-Boost	9.5–17.5	–	0.2	320K	External FET	–	±5%	0.2
HV9861A	Buck	15–450	PWM/Linear	1.5	100K	External FET	–	±3%	0.2
HV9910B	Buck	8–450	PWM/Linear	1.0	100K	External FET	–	±5%	0.2
HV96001	**Current Mode Boost**	**8-60**	**Extra Wide Range PWM and Analog**	**3.4**	**200 kHz**	External	–		**0.4**

DISPLAY AND LED DRIVERS: LED Drivers (Continued)

Part #	Topology	Input Voltage (V)	Dimming	I_Q Typ. (mA)	Switching Frequency (Hz)	Switching MOSFET	Dithered	ILED Accuracy	V_F
General Purpose LED Drivers (Continued)									
HV9910C	Buck	15–450	PWM/Linear	1.0	100K	External FET	–	±5%	
HV9918	Buck	4.5–40	PWM	1.5	2M	0.7A FET	–	±5%	
HV9919B	Buck	4.5–40	PWM	1.5	2M	External FET	–	±5%	
HV9921	Buck	20–400	–	0.2	100K	20 mA	–	N/A	
HV9922	Buck	20–400	–	0.2	100K	50 mA	–	N/A	
HV9923	Buck	20–400	–	0.2	100K	30 mA	–	N/A	
HV9925	Buck	20–400	PWM	0.3	100K	20–50 mA	–	N/A	
HV9930	Ćuk	8–200	PWM	1.0	Variable	External FET	–	N/A	
HV9931	Buck	8–450	PWM	1.0	100K	External FET	–	N/A	
MIC3201	Buck	6–20	PWM	1.2	Hyst to 1.0M	1A FET	–	±5%	
MIC3202	Buck	6–37	PWM	1.2	Hyst to 1.0M	1A FET	✓	±5%	
MIC3202-1	Buck	6–37	PWM	1.2	Hyst to 1.0M	1A FET	–	±5%	
MIC3203	Buck	4.5–42	PWM	1.0	Hyst to 1.5M	External FET	✓	±5%	
MIC3203-1	Buck	4.5–42	PWM	1.0	Hyst to 1.5M	External FET	–	±5%	
MIC3205	Buck	4.5–40	PWM	1.3	Hyst to 1M	External FET	–	±5%	
MIC3230	Boost	6–45	PWM	3.2	100K–1.0M	External FET	–	±3%	
MIC3231	Boost	6–45	PWM	3.2	100K–1.0M	External FET	✓	±3%	
MIC3232	Boost	6–45	PWM	3.2	400K	External FET	–	±3%	

Backlight LED Drivers

Part #	Topology	Input Voltage (V)	Dimming	I_Q Typ. (mA)	Output Current	Int. Diode	V_{FB} (V)	Frequency
HV9803	Buck	7–13.2	PWM/Linear	1.5	External FET	N/A	0.8	100K
HV9911	Boost, SEPIC, Buck-Boost	9–250	PWM /Linear	N/A	External FET	N/A	0.45	100K
HV9912	Boost, SEPIC, Buck-Boost	9–100	PWM /Linear	N/A	External FET	N/A	0.45	100K
HV9961	Buck	8–450	PWM/Linear	3.5	External FET	N/A	0.27	100K
HV9963	Boost, SEPIC, Buck-Boost	8–40	PWM/Linear	N/A	External FET	N/A	N/A	100K
HV9967B	Buck	8–60	PWM/Linear	N/A	1A FET	N/A	0.24	100K
HV9980	Buck	100–160	PWM/Linear	3.0	0.07A FET	N/A	N/A	500K
HV9985	Boost, SEPIC, Buck	10–40	PWM/Linear	1.5	External FET	N/A	N/A	500K
MIC2282	Boost	0.9–15	N/A	0.12	1A BJT	N/A	0.22	20K
MIC2287	Boost	2.5–10	PWM/Analog	2.5	2A BJT	N/A	0.095	1.2M
MIC2287C	Boost	2.5–10	PWM/Analog	2.5	2A BJT	N/A	0.095	1.2M
MIC2289	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	1.2M
MIC2289C	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	1.2M
MIC2291	Boost	2.5–10	PWM/Analog	2.8	2A BJT	N/A	0.095	1.2M
MIC2292	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	1.6M
MIC2292C	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	1.6M
MIC2293	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	2.0M
MIC2293C	Boost	2.5–10	PWM/Analog	2.5	2A BJT	Yes	0.095	2.0M
MIC2297	Boost	2.5–10	PWM/Analog	4	3A BJT	N/A	0.2	600K
MIC2298	Boost	2.5–10	PWM/Analog	15	6A BJT	N/A	0.2	1.0M
MIC2299	Boost	2.5–10	PWM/Analog	15	8A BJT	N/A	0.2	2.0M
MIC3223	Boost	4.5–20	PWM	2.1	10A FET	N/A	0.2	1.0M
MIC3263	Boost	6–40	PWM	6.5	2A BJT	N/A	2.36	400K–1.8M
MIC3287	Boost	2.8–6.5	PWM/Analog	2.1	1A BJT	N/A	0.25	1.2M
MIC3289	Boost	2.5–6.5	1-Wire	1.4	2A BJT	Yes	0.25	1.2M

DISPLAY AND LED DRIVERS: LED Drivers (Continued)

Part #	Input Voltage (V)	# of White LEDs	Dimming	I_Q Typ. (mA)	V Dropout LED @ 20 mA	ILED Matching	Ext. LDOs	$V_{DROPOUT}$	IQLDO
Linear LED Drivers									
MIC2841A	3–5.5	4 @ 20 mA	PWM (200 Hz–500 kHz)	1.4	40 mV	±1.5%	–	–	–
MIC2842A	3–5.5	4 @ 20 mA	1-Wire, 48-Steps	1.4	40 mV	±1.5%	–	–	–
MIC2843A	3–5.5	6 @ 20 mA	PWM (200 Hz–500 kHz)	1.4	40 mV	±1.5%	–	–	–
MIC2844A	3–5.5	6 @ 20 mA	1-Wire, 48-Steps	1.4	40 mV	±1.5%	–	–	–
MIC2846A	3–5.5	6 @ 20 mA	1-Wire, 48-Steps	1.4	40 mV	±1.5%	2	150	35
MIC2860-2D	3–5.5	2 @ 30.2 mA	1-Wire, 32-Steps	0.7	52 mV	±0.5%	–	–	–
MIC2860-2P	3–5.5	2 @ 30.2 mA	PWM down to 250Hz	0.7	52 mV	±0.5%	–	–	–
MIC4811	3–5.5	6 @ 50 mA	PWM (200 Hz–500 kHz)	1.7	100 mV @ 50 mA	±1.0%	–	–	–
MIC4812	3–5.5	6 @ 100 mA	PWM (200 Hz–500 kHz)	3.2	190 mV @ 100 mA	±1.0%	–	–	–
MIC4801	3–5.5	1 @ 600 mA	PWM (200 Hz–500 kHz)	2.2	130 mV @ 400 mA	N/A	–	–	–
MIC4802	3–5.5	1 @ 800 mA	PWM (200 Hz–500 kHz)	4.1	280 mV @ 800 mA	N/A	–	–	–

Linear Regulators

Part #	Input Voltage (V)	Output Voltage (V)	Output Current (mA)	Dimming	Parallelable	Packages
CL2	5.0–90	5.0–90	20	External FET	Yes	3-pin TO-252, 3-pin TO-92, 3-pin S
CL25	5.0–90	5.0–90	25	External FET	Yes	3-pin TO-92, 3-pin SOT-89
CL220	5.0–220	5.0–220	20	External FET	Yes	3-pin TO-252, 3-pin TO-220
CL320	6.5–90	4.0–90	20	PWM	Yes	8-bit SOIC with Heat Slug
CL325	6.5–90	4.0–90	25	PWM	Yes	8-bit SOIC with Heat Slug
CL330	6.5–90	4.0–90	30	PWM	Yes	8-bit SOIC with Heat Slug
CL520	4.75–90	1.0–90	20	–	Yes	3-pin TO-252, 3-pin TO-92
CL525	4.75–90	1.0–90	25	–	Yes	3-pin TO-252, 3-pin TO-92
CL6	6.5–90	4.0–90	100	No	Yes	3-pin TO-252, 3-pin TO-220
CL7	6.5–90	4.0–90	100	PWM	Yes	8-pin SOIC with Heat Slug

Display LED Drivers

Part #	Input Voltage (V)	Sink Current (mA)	Segments	LEDs	Description
MIC5400	4.75–5.5	30	N/A	2 banks of 8	Driving Large LED Array
MM5450	4.75–11	15	34	N/A	7-Segment LED Driver
MM5451	4.75–11	15	35	N/A	7-Segment LED D

Sequential Linear LED Drivers

Part #	V_{IN} (V)	V_{OUT} (V)	Output Current (mA)	Dimming	Parallelable	Features
CL8800	90–275	70–350	115	External Dimmer	Yes	6-Stage
CL8801	90–275	70–350	200	External Dimmer	Yes	4-Stage
CL88020	90–135	70–190	115	External Dimmer	Yes	4-Tap
CL88030	**90**	**320**	**N/A**	**External**	**Yes**	**4-Tap, ALR, OTP, I_{OUT} FET Dependent**
CL88031	**90**	**320**	**N/A**	**External**	**Yes**	**6-Tap, ALR, OTP, I_{OUT} FET Dependent**

Camera Flash LED Drivers

Part #	Input Voltage (V)	# of LED Channels	Max. LED Current (mA)	Standby Current (mA)	Switch Frequency (MHz)	Peak Efficiency (%)	Current Accuracy (%)
MIC2870	2.7–5	2	1500	0.90	2	94	±10
MIC2871	2.7–5.5	1	1200	0.23	2	94	±5
MIC2873	2.7–5.5	1	1200	0.17	2	92	±8
MIC2874	2.7–5.5	1	1200	0.17	4	92	±8

HIGH-VOLTAGE INTERFACE

HIGH-VOLTAGE INTERFACE: Driver Arrays

Part #	Output Channels	V_{OUT} Operating (V) Transient	V_{OUT} Operating (V) Sustained	Input Structure	Description
Sink					
HV5122	32	250	225	Serial	Serial to parallel converter with output enable and strobe
HV5222	32	250	225	Serial	Serial to parallel converter with output enable and strobe
HV5522	32	230	220	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5523	32	230	220	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5530	32	315	300	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5622	32	230	220	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5623	32	250	220	Serial	Serial to parallel converter with latches, polarity, and blanking
HV5630	32	315	300	Serial	Serial to parallel converter with latches, polarity, and blanking
MIC5800	4	50	50	Parallel	4.4 MHz (min.) Data at 5V, Higher at 12V; TTL/CMOS/PMOS Logic; Integrated clamp diodes; CLR/Strobe/Enable Out
MIC5801	8	50	50	Parallel	4.4 MHz (min.) Data at 5V, Higher at 12V; TTL/CMOS/PMOS Logic; Integrated clamp diodes; CLR/Strobe/Enable Out
MIC5821	8	50	35	Serial	Similar to MIC5801, Adds thermal Shutdown, UVLO, OCP
MIC5822	8	80	50	Serial	8-bit SRs (Cascadable), Operable with split supply (to –20V), 3.3 MHz (min.) Data at 5V, TTL/CMOS/PMOS/NMOS Logi
MIC5841	8	50	35	Serial	8-bit SRs (Cascadable), Operable with split supply (to –20V), 3.3 MHz (min.) Data at 5V, Higher at 12V, TTL/CMOS/PMO
MIC5842	8	80	50	Serial	8-bit SRs (Cascadable), Operable with split supply (to –20V), 3.3 MHz (min.) Data at 5V, Higher at 12V, Low Power Logi Down Res's
MIC58P01	8	80	80	Parallel	8-bit SRs (Cascadable), Operable w/Split Supply (to –20V), 3.3 MHz (min.) Data at 5V, Higher at 12V, Low Power Logic: TTL
MIC58P42	8	80	50	Serial	Similar to MIC5842, adds thermal shutdown, UVLO, OCP
MIC59P50	8	80	80	Parallel	Similar to MIC58P01, with added error flag output
MIC59P60	8	80	50	Serial	Similar to MIC58P42, with added error flag output
Source					
HV57009	64	95	85	Serial	Current controlled driver with latches and blanking, two 32-bit shift registers
MIC2981/82	8	50	35	Parallel	8-Ch. driver with parallel I/Os; TTL/CMOS/PMOS Logic; Integrated clamp diodes; V_{IN}<12V
MIC5891	8	50	35	Serial	8-bit SRs (Cascadable), Operable with split supply (to –20V), 5 MHz (min.) Data at 5V, Integrated clamp diodes; TTL/CMO
Source-Sink					
HV3418	64	200	180	Serial	Serial to parallel converter with latches, polarity, and blanking
HV507	64	320	300	Serial	Serial to parallel converter with latches, polarity, and blanking
HV508	2	60	45	Parallel	H-Bridge output with two output voltage level selections and polarity; Specially targeted as LCD shutter driver
HV513	8	275	250	Serial	Serial to parallel converter with latches, polarity, and blanking HI-Z and short circuit detect
HV518	32	90	80	Serial	Serial to parallel converter with latches, enable, and strobe; Specially targeted as vacuum-fluorescent display drive
HV5308	32	90	80	Serial	Serial to parallel converter with latches, and output enable
HV5408	32	90	80	Serial	Serial to parallel converter with latches, and output enable
HV574	80	90	80	Serial	Serial to parallel converter with latches, polarity, and blanking
HV57708	64	90	80	Serial	Polarity, and blanking with four 16-bit shift registers
HV57908	64	90	80	Serial	Latches, blanking, polarity, and single shift register
HV5812	20	90	80	Serial	Serial to parallel converter with latches, blanking and strobe
HV582	96	85	80	Serial	96-Channel, with high-voltage CMOS Outputs, 80V
HV583	128	90	80	Serial	128-Channel, with high-voltage CMOS Outputs, 80V
HV66	32	70	60	Serial	Serial to parallel converter with latches, polarity and blanking
HV6810	10	90	80	Serial	Serial to parallel converter with data latches and channel polarity select
HV7022	34	250	230	Serial	Serial to parallel converter with direction, enable, and polary select; particularly useful for ACTFEL displays
HV7224	40	260	240	Serial	Serial to parallel converter with latches, and output enable
HV7620	32	225	200	Serial	Serial to parallel converter with latches, channel polarity select, and blanking
HV9308	32	90	80	Serial	Serial to parallel converter latches and output enable, CW directional shift
HV9408	32	90	80	Serial	Serial to parallel converter latches and output enable; CCW directional shift
HV9808	32	90	80	Serial	Serial to parallel converter latches, polarity, and output enable; CCW directional shift

HIGH-VOLTAGE INTERFACE: Amplifiers and MEMS Drivers

Part #	Output Channels	Slew Rate (V/µs)	Closed Loop Gain (V/V)	Feedback Resistance (MΩ)	Source Current (Max. µA)	Sink Current (Max. µA)	Output Capaciti
HV254	32	3	50	12	300	300	
HV256	32	2	72	12	715	715	3
HV257	32	2	72	12	500	500	3
HV264	4	9	66.7	5.3	3000	3000	
HV265	4	0.02	82	4.9	3000	300	2
HV56022	**2**	**0.2**	**75**	**1.9**	**96000**	**167000**	**N**
HV56020	**2**	**0.2**	**75**	**1.9**	**96000**	**167000**	**N**

HIGH-VOLTAGE INTERFACE: MOSFETs – Interface

Part #	BV_{DSX} Min. (V)	$R_{DS(ON)}$ Max. (Ω)	$V_{GS(OFF)}$ Min. (V)	$V_{GS(OFF)}$ Max. (V)	
Depletion-Mode N-Channel					
LND01	9	1.4	–0.8	–3	5-pin S
DN1509	90	6	–1.8	–3.5	3-pin S
DN2625	250	3.5	–1.5	–2.1	8-pin V
DN3525	250	6	–1.5	–3.5	3-pin S
DN2530	300	12	–1	–3.5	3-pin T
DN3535	350	10	–1.5	–3.5	3-pin S
DN2535	350	25	–1.5	–3.5	3-pin T
DN3135	350	35	–1.5	–3.5	3-pin S
DN2540	400	25	–1.5	–3.5	3-pin T
DN3545	450	20	–1.5	–3.5	3-pin T
DN3145	450	60	–1.5	–3.5	3-pin S
DN2450	500	10	–1.5	–3.5	3-pin D
LND150	500	1000	–1	–3	3-pin T
LND250	500	1000	–1	–3	3-pin S
DN3765	650	8	–1.5	–3.5	3-pin D
DN2470	700	42	–1.5	–3.5	3-pin D

Enhancement-Mode N-Channel					
Part #	**BV_{DSS} Min. (V)**	**$R_{DS(ON)}$ Max. (Ω)**	**C_{ISS} Max. (pF)**	**$V_{GS(TH)}$ Max. (V)**	
TN2501	18	2.5	110	1.0	3-pin S
TN0702	20	1.3	200	1.0	3-pin T
VN0300	30	1.2	190	2.5	3-pin T
TN0604	40	0.8	190	1.6	3-pin T
TN2504	40	1.0	125	1.6	3-pin S
TN0104	40	2.0	70	1.6	3-pin T
VN0104	40	3.0	65	2.4	3-pin T
VN3205	50	0.3	300	2.4	3-pin T
TN0606	60	1.5	150	2.0	3-pin T
TN2106	60	2.5	50	2.0	3-pin T
2N6660	60	3.0	50	2.0	3-pin T
TN0106	60	3.0	60	2.0	3-pin T
VN0106	60	3.0	65	2.4	3-pin T
VN0606	60	3.0	50	2.0	3-pin T
VN2106	60	4.0	50	2.4	3-pin T
2N7000	60	5.0	60	3.0	3-pin T
2N7002	60	7.5	50	2.5	3-pin S
2N7008	60	7.5	50	2.5	3-pin T
VN2222L	60	7.5	60	2.5	3-pin T

HIGH-VOLTAGE INTERFACE: MOSFETs – Interface (Continued)

Part #	BV_{DSS} Min. (V)	$R_{DS(ON)}$ Max. (Ω)	C_{ISS} Max. (pF)	$V_{GS(TH)}$ Max. (V)	
Enhancement-Mode N-Channel (Continued)					
VN0808	80	4.0	50	2.0	3-pin T
VN0109	90	3.0	65	2.4	3-pin T
2N6661	90	4.0	50	2.0	3-pin T
VN2210	100	0.4	500	2.4	3-pin T
TN0610	100	1.5	150	2.0	3-pin T
TN2510	100	1.5	125	2.0	3-pin S
TN0110	100	3.0	60	2.0	3-pin T
VN2110	100	4.0	50	2.4	3-pin S
VN1206	120	6.0	125	2.0	3-pin T
TN0620	200	6.0	150	1.6	3-pin T
VN2224	240	1.3	350	3.0	3-pin T
TN2524	240	6.0	125	2.0	3-pin S
VN2406	240	6.0	125	2.0	3-pin T
VN2410	240	10.0	125	2.0	3-pin T
TN2124	240	15.0	50	2.0	3-pin S
TN2425	250	3.5	200	2.0	3-pin S
TN5325	250	7.0	110	2.0	3-pin T
TN2130	300	25.0	50	2.4	3-pin S
TN2435	350	6.0	200	0.8 (min)	3-pin S
TN5335	350	15.0	110	2.0	3-pin S
TN2640	400	5.0	225	2.0	3-pin D
TN2540	400	12.0	125	2.0	3-pin T
VN4012	400	12.0	110	1.8	3-pin T
VN2450	500	13.0	150	4.0	3-pin T
VN0550	500	60.0	55	4.0	3-pin T
VN2460	600	20.0	150	4.0	3-pin T
Enhancement-Mode P-Channel					
LP0701	–16.5	1.5	250	–1.0	3-pin T
TP2502	–20	2.0	125	–2.4	3-pin S
VP3203	–30	0.6	300	–3.5	3-pin T
TP0604	–40	2.0	150	–2.4	3-pin T
TP2104	–40	6.0	60	–2.0	3-pin T
VP0104	–40	8.0	60	–3.5	3-pin T
VP2206	–60	0.9	450	–3.5	3-pin T
VP0106	–60	8.0	60	–3.5	3-pin T
VP2106	–60	12.0	60	–3.5	3-pin T
VP0808	–80	5.0	150	–4.5	3-pin T
VP0109	–90	8.0	60	–3.5	3-pin T
TP2510	–100	3.5	125	–2.4	3-pin S
VP2110	–100	12.0	60	–3.5	3-pin S
TP0620	–200	12.0	150	–2.4	3-pin T
TP2520	–200	12.0	125	–2.0	3-pin S
TP2522	–220	12.0	125	–2.4	3-pin S
TP5322	–220	12.0	110	–2.4	3-pin S
TP2424	–240	8.0	200	–2.4	3-pin S
TP2435	–350	15.0	200	–2.4	3-pin S

HIGH-VOLTAGE INTERFACE: MOSFETs – Interface (Continued)

Part #	BV_{DSS} Min. (V)	$R_{DS(ON)}$ Max. (Ω)	C_{ISS} Typ. (pF)	$V_{GS(TH)}$ Max. (V)	
Enhancement-Mode P-Channel (Continued)					
TP2635	–350	15.0	300	–2.0	3-pin T
TP2535	–350	25.0	125	–2.4	3-pin T
TP5335	–350	30.0	110	–2.4	3-pin S
TP2640	–400	15.0	300	–2.0	3-pin T
TP2540	–400	25.0	125	–2.4	3-pin T
VP2450	–500	30.0	190	–3.5	3-pin T
VP0550	–500	125.0	70	–4.5	3-pin T
N-Channel (Enhancement-Mode MOSFET Arrays)					
TD9944	240	6	65	2	8-pin S
TN2501	18	2.5	110	1.0	3-pin S
TN0702	20	1.3	200	1.0	3-pin T
VN0300	30	1.2	190	2.5	3-pin T
TN0604	40	0.8	190	1.6	3-pin T
TN2504	40	1.0	125	1.6	3-pin S
TN0104	40	2.0	70	1.6	3-pin T
VN0104	40	3.0	65	2.4	3-pin T
VN3205	50	0.3	300	2.4	3-pin T
TN0606	60	1.5	150	2.0	3-pin T
TN2106	60	2.5	50	2.0	3-pin T
2N6660	60	3.0	50	2.0	3-pin T
TN0106	60	3.0	60	2.0	3-pin T
VN0106	60	3.0	65	2.4	3-pin T
VN0606	60	3.0	50	2.0	3-pin T
VN2106	60	4.0	50	2.4	3-pin T
2N7000	60	5.0	60	3.0	3-pin T
2N7002	60	7.5	50	2.5	3-pin S
2N7008	60	7.5	50	2.5	3-pin T
VN2222L	60	7.5	60	2.5	3-pin T
VN0808	80	4.0	50	2.0	3-pin T
VN0109	90	3.0	65	2.4	3-pin T
2N6661	90	4.0	50	2.0	3-pin T
VN2210	100	0.4	500	2.4	3-pin T

Complimentary (Enhancement-Mode MOSFET Arrays)						
Part #	**BV_{DSS} N-Channel (V)**	**BV_{DSS} P-Channel (V)**	**$R_{DS(ON)}$ N-Channel Max. (Ω)**	**$R_{DS(ON)}$ P-Channel Max. (Ω)**	**$V_{GS(TH)}$ Max. (V)**	**Details**
TC1550	500	–500	60.0	125.0	4.0	N- and P-Channel F
TC2320	200	–200	7.0	12.0	2.0	N- and P-Channel F
TC6215	150	–150	4.0	7.0	2.0	N- and P-Channel F
TC6320	200	–200	7.0	8.0	2.0	N- and P-Channel F
TC6321	200	–200	7.0	8.0	2.0	N- and P-Channel F
TC7920	200	–200	7.0	8.0	2.0	2 N- and P-Channel F
TC8020	200	–200	8.0	9.5	3.0	6 N- and P-Channel F
TC8220	200	–200	5.3	6.5	2.0	2 N- and P-Channel F

HIGH-VOLTAGE INTERFACE: Application Specific

Part #	DC/DC	Input Voltage Min. (V)	Input Voltage Max. (V)	Output Voltage Min. (V_{RMS})	Output Voltage Max. (V_{RMS})	Load Min. (pF)
Liquid Lens Driver						
HV892	Internal Charge Pump	2.65	5.5	10	60	100

Part #	# of Channels	Input Voltage Low (V)	Input Voltage High (V)	Output Voltage Low (V)	Output Voltage High (V)	Input to Output Isolat (V)
Complimentary MOSFET Level Translator and Driver						
HT0440	2	3.15	5.5	6	10	±400
HT0740	1	3.15	5.5	4.5	8.5	±400

Part #	V_{IN} (V)	Gain	Rise and Fall Time (µs)	V_{SENSE} Max. (mV)	Quiescent Current Max. (
High-Side Current Monitor					
HV7800	8.0–450	Fixed, 1	0.7–2.0	500	50
HV7801	8.0–450	Fixed, 5	0.7–2.0	500	50
HV7802	8.0–450	Adjustable	0.7–1.4	500	50

Part #	Voltage (V)	# of Channels	Ron (Ω)	V_{OFF} (V)
Fault Protection				
FP0100	100	1	4.5	4.5

Part #	V_{IN} Min. (V)	V_{IN} Max. (V)	I_{IN} Max. (mA)	Oscillator Frequency Min. (kHz)	Oscillator Frequency Max. (kHz)	Oscillator Frequency f_{SYNC} Min. (kHz)	Max Output Duty Cycle (%)	Typical Current Sense Pull-In (V)	Typical Current Sense Hold	External Adjustable Regulator Output Voltage (V)	Ext R
Relay Driver and Controller											
HV9901	10	450	2	20	140	150	99.5	0.883	Adjustable	2.0–5.5	

LINEAR

LINEAR: Op Amps

Part #	# Per Package	GBWP	I_Q Typical (µA)	V_{OS} Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/rtHz)	Operating Voltage (V)	Temperature Range (°C)	Features	
MCP6441	1	9 kHz	0.45	4.5	1	190(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	5-pin S
MCP6442	2	9 kHz	0.45	4.5	1	190(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6444	4	9 kHz	0.45	4.5	1	190(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP6031	1	10 kHz	0.9	0.15	1	165(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6032	2	10 kHz	0.9	0.15	1	165(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6033	1	10 kHz	0.9	0.15	1	165(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin S
MCP6034	4	10 kHz	0.9	0.15	1	165(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP6041	1	14 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin P
MCP6042	2	14 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin P
MCP6043	1	14 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin P
MCP6044	4	14 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin
MIC7111	1	25 kHz	20	7	1	110	1.8 to 11	–40 to +85	Rail-to-Rail Input/Output	5-pin S

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout
Note 1: Values are typical at 1 kHz **2:** Values are typical at 10 kHz

LINEAR: Op Amps (Continued)

Part #	# Per Package	GBWP	I_Q Typical (µA)	V_{OS} Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/rtHz)	Operating Voltage (V)	Temperature Range (°C)	Features	
MCP6421	1	90 kHz	4.4	1	1	95(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	5-pin S
MCP6422	2	90 kHz	4.4	1	1	95(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	8-pin S
MCP6424	4	90 kHz	4.4	1	1	95(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	14-pin
MCP6141	1	100 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, G >10 stable	5-pin S
MCP6142	2	100 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, G >10 stable	8-pin P
MCP6143	1	100 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, G >10 stable, Chip select	8-pin P
MCP6144	4	100 kHz	0.6	3	1	170(1)	1.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, G >10 stable	14-pin
MCP606	1	155 kHz	19	0.25	1	38(1)	2.5 to 6.0	–40 to +85	Rail-to-Rail Output	8-pin P
MCP607	2	155 kHz	19	0.25	1	38(1)	2.5 to 6.0	–40 to +85	Rail-to-Rail Output	8-pin P
MCP608	1	155 kHz	19	0.25	1	38(1)	2.5 to 6.0	–40 to +85	Rail-to-Rail Output, Chip select	8-pin P
MCP609	4	155 kHz	19	0.25	1	38(1)	2.5 to 6.0	–40 to +85	Rail-to-Rail Output	14-pin
MCP616	1	190 kHz	19	0.15	15000	32(1)	2.3 to 5.5	–40 to +85	Rail-to-Rail Output, PNP input	8-pin P
MCP617	2	190 kHz	19	0.15	15000	32(1)	2.3 to 5.5	–40 to +85	Rail-to-Rail Output, PNP input	8-pin P
MCP618	1	190 kHz	19	0.15	15000	32(1)	2.3 to 5.5	–40 to +85	Rail-to-Rail Output, Chip select, PNP input	8-pin P
MCP619	4	190 kHz	19	0.15	15000	32(1)	2.3 to 5.5	–40 to +85	Rail-to-Rail Output, PNP input	14-pin
MCP6231	1	300 kHz	20	5	1	52(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin P 5-pin S
MCP6232	2	300 kHz	20	5	1	52(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin P
MCP6234	4	300 kHz	20	5	1	52(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP6051	1	385 kHz	30	0.15	1	34(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6052	2	385 kHz	30	0.15	1	34(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6054	4	385 kHz	30	0.15	1	34(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin
MIC861	1	400 kHz	4.6	10	20	–	2.43 to 5.25	–40 to +85	Rail-to-Rail Output	5-pin S
MIC863	2	450 kHz	4.2	6.0	10	–	2.0 to 5.25	–40 to +85	Rail-to-Rail Output	8-pin S
LMC7101	1	500 kHz	500	6	1	37	2.7 to 12	–40 to +85	Rail-to-Rail Input/Output	5-pin S
MIC7300	1	500 kHz	1000	9	0.5	37	2.2 to 10	–40 to +85	Rail-to-Rail Input/Output, High Output Drive	5-pin S
MCP6241	1	550 kHz	50	5	1	45(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin P 5-pin S
MCP6242	2	550 kHz	50	5	1	45(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin P
MCP6244	4	550 kHz	50	5	1	45(1)	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP6061	1	730 kHz	60	0.15	1	25(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6062	2	730 kHz	60	0.15	1	25(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6064	4	730 kHz	60	0.15	1	25(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin
MIC7122	2	750 kHz	800	9	1	37	2.2 to 15	–40 to +85	Rail-to-Rail Input/Output	8-pin M
MCP6001	1	1 MHz	100	4.5	1	28(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	5-pin S
MCP6002	2	1 MHz	100	4.5	1	28(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin P
MCP6004	4	1 MHz	100	4.5	1	28(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP6007	**2**	**1 MHz**	**70**	**1.6**	**1**	**25(1)**	**1.8 to 5.5**	**–40 to +125**	**Rail-to-Rail Input/Output, Enhanced EMI Rejection**	**8-pin S**
MCP6009	**4**	**1 MHz**	**70**	**1.6**	**1**	**25(1)**	**1.8 to 5.5**	**–40 to +125**	**Rail-to-Rail Input/Output, Enhanced EMI Rejection**	**14-pin**
MCP6401	1	1 MHz	45	4.5	1	28(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	5-pin S
MCP6402	2	1 MHz	45	4.5	1	28(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6404	4	1 MHz	45	4.5	1	28(1)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin
MCP6411	1	1 MHz	47	1	1	38(1)	1.7 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection	5-pin S
MCP6L01	1	1 MHz	85	5	2	24(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	5-pin S
MCP6L02	2	1 MHz	85	5	2	24(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin S
MCP6L04	4	1 MHz	85	5	2	24(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pin

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout **Note 1:** Values are typical at 1 kHz **2:** Values are typical at 10 kHz

LINEAR: Op Amps (Continued)

Part #	# per Package	GBWP	Iq Typical (µA)	Vos Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/rtHz)	Operating Voltage (V)	Temperature Range (°C)	Features	
MCP6071	1	1.2 MHz	110	0.15	1	19(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6072	2	1.2 MHz	110	0.15	1	19(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6074	4	1.2 MHz	110	0.15	1	19(2)	1.8 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pi
MCP6H01	1	1.2 MHz	135	3.5	10	35(1)	Single Supply: 3.5 to 16 Dual Supply: ±1.75 to ±8	–40 to +125	Rail-to-Rail Output	8-pin 5-pin
MCP6H02	2	1.2 MHz	135	3.5	10	35(1)	Single Supply: 3.5 to 16 Dual Supply: ±1.75 to ±8	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H04	4	1.2 MHz	135	3.5	10	35(1)	Single Supply: 3.5 to 16 Dual Supply: ±1.75 to ±8	–40 to +125	Rail-to-Rail Output	14-pi
MCP6271	1	2 MHz	170	3	1	20(1)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6272	2	2 MHz	170	3	1	20(1)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6273	1	2 MHz	170	3	1	20(1)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin
MCP6274	4	2 MHz	170	3	1	20(1)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pi
MCP6275	2	2 MHz	150	3	1	20(1)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Dual connected, Chip select	8-pin
MCP6471	1	2 MHz	100	1.5	1	27(1)	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output	5-pin
MCP6472	2	2 MHz	100	1.5	1	27(1)	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6474	4	2 MHz	100	1.5	1	27(1)	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pi
MCP6L71	1	2 MHz	150	4	1	19(2)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6L72	2	2 MHz	150	4	1	19(2)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6L74	4	2 MHz	150	4	1	19(2)	2.0 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pi
MIC6211	1	2.5 MHz	1200	7	50000	–	4.0 to 32	–40 to +85	–	5-pin
MCP6H71	1	2.7 MHz	480	4	10	28(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H72	2	2.7 MHz	480	4	10	28(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H74	4	2.7 MHz	480	4	10	28(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	14-pi
MCP601	1	2.8 MHz	230	2	1	29(1)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	8-pin
MCP602	2	2.8 MHz	230	2	1	29(1)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	8-pin
MCP603	1	2.8 MHz	230	2	1	29(1)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output, Chip select	8-pin
MCP604	4	2.8 MHz	230	2	1	29(1)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	14-pi
MCP6L1	1	2.8 MHz	200	3	1	21(2)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	8-pin
MCP6L2	2	2.8 MHz	200	3	1	21(2)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	8-pin
MCP6L4	4	2.8 MHz	200	3	1	21(2)	2.7 to 6.0	–40 to +125	Rail-to-Rail Output	14-pi
MCP6477	**2**	**3 MHz**	**140**	**1.6**	**1**	**17(1)**	**1.8 to 5.5**	**–40 to +125**	**Rail-to-Rail Input/Output, Enhanced EMI Rejection**	**8-pin**
MCP6479	**4**	**3 MHz**	**140**	**1.6**	**1**	**17(1)**	**1.8 to 5.5**	**–40 to +125**	**Rail-to-Rail Input/Output, Enhanced EMI Rejection**	**14-pi**
MIC862	2	3.0 MHz	31	6	10	-	2.0 to 5.25	–40 to +85	Rail-to-Rail Output	8-pin
MCP6286	1	3.5 MHz	540	1.5	1	5.4(2)	2.2 to 5.5	–40 to +125	Rail-to-Rail Output, Low noise	5-pin
MIC860	1	4.0 MHz	33	20	20	-	2.43 to 5.25	–40 to +85	Rail-to-Rail Output	5-pin
MCP6481	1	4 MHz	240	1.5	1	23(1)	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output	5-pin
MCP6482	2	4 MHz	240	1.5	1	23(1)	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6484	4	4 MHz	240	1.5	1	23(1)	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pi
MCP6281	1	5 MHz	445	3	1	16(1)	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6282	2	5 MHz	445	3	1	16(1)	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6283	1	5 MHz	445	3	1	16(1)	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin
MCP6284	4	5 MHz	445	3	1	16(1)	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pi

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout **Note 1:** Values are typical at 1 kHz **2:** Values are typical at 10 kHz

LINEAR: Op Amps (Continued)

Part #	# per Package	GBWP	I_Q Typical (µA)	V_{OS} Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/rtHz)	Operating Voltage (V)	Temperature Range (°C)	Features	
MCP6285	2	5 MHz	400	3	1	16(1)	2.2 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Dual connected, Chip select	8-pin
MCP6H81	1	5.5 MHz	700	4	10	23(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H82	2	5.5 MHz	700	4	10	23(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H84	4	5.5 MHz	700	4	10	23(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	14-pi
MCP6491	1	7.5 MHz	530	1.5	1	19(1)	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output	5-pin
MCP6492	2	7.5 MHz	530	1.5	1	19(1)	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6494	4	7.5 MHz	530	1.5	1	19(1)	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pi
MCP6021	1	10 MHz	1000	0.5	1	8.7(2)	2.5 to 5.5	–40 to +125	Rail-to-Rail Input/Output, 1/2 V_{CC} V_{REF}	8-pin 5-pin
MCP6022	2	10 MHz	1000	0.5	1	8.7(2)	2.5 to 5.5	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6023	1	10 MHz	1000	0.5	1	8.7(2)	2.5 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select, 1/2 V_{CC} V_{REF}	8-pin
MCP6024	4	10 MHz	1000	0.5	1	8.7(2)	2.5 to 5.5	–40 to +125	Rail-to-Rail Input/Output	14-pi
MCP6291	1	10 MHz	1000	3	1	8.7(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6292	2	10 MHz	1000	3	1	8.7(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6293	1	10 MHz	1000	3	1	8.7(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Chip select	8-pin
MCP6294	4	10 MHz	1000	3	1	8.7(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pi
MCP6295	2	10 MHz	1100	3	1	8.7(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output, Dual connected, Chip select	8-pin
MCP6H91	1	10 MHz	2000	4	10	23(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H92	2	10 MHz	2000	4	10	23(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	8-pin
MCP6H94	4	10 MHz	2000	4	10	23(1)	Single Supply: 3.5 to 12 Dual Supply: ±1.75 to ±6	–40 to +125	Rail-to-Rail Output	14-pi
MCP6L91	1	10 MHz	850	4	1	9.4(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6L92	2	10 MHz	850	4	1	9.4(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	8-pin
MCP6L94	4	10 MHz	850	4	1	9.4(2)	2.4 to 6.0	–40 to +125	Rail-to-Rail Input/Output	14-pi
MCP621	1	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select, mCal Technology	8-pin
MCP621S	1	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	5-pin
MCP622	2	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	8-pin
MCP623	1	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select, mCal Technology	6-pin
MCP624	4	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	14-pi
MCP625	2	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects, mCal Technology	10-pi
MCP629	4	20 MHz	2500	0.2	5	13(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output,Chip selects, mCal Technology	16-pi
MCP631	1	24 MHz	2500	8	4	10(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	8-pin
MCP632	2	24 MHz	2500	8	4	10(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	8-pin
MCP633	1	24 MHz	2500	8	4	10(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select	8-pin
MCP634	4	24 MHz	2500	8	4	10(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	14-pi
MCP635	2	24 MHz	2500	8	4	10(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects	10-pi
MCP639	4	24 MHz	2500	8	4	10(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects	16-pi

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout
Note 1: Values are typical at 1 kHz **2:** Values are typical at 10 kHz **3:** Values are typical at 1 MHz

LINEAR: Op Amps (Continued)

Part #	# per Package	GBWP	Iq Typical (µA)	Vos Max (mV)	Typical Input Bias Current (pA)	Input Voltage Noise Density (nV/rtHz)	Operating Voltage (V)	Temperature Range (°C)	Features	
MCP651	1	50 MHz	6000	0.2	6	7.5(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select, mCal Technology	8-pin
MCP651S	1	50 MHz	6000	0.2	6	7.5(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	5-pin
MCP652	2	50 MHz	6000	0.2	6	7.5(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	8-pin
MCP653	1	50 MHz	6000	0.2	6	7.5(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select, mCal Technology	6-pin
MCP654	4	50 MHz	6000	0.2	6	7.5(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, mCal Technology	14-pi
MCP655	2	50 MHz	6000	0.2	6	7.5(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects, mCal Technology	10-pi
MCP659	4	50 MHz	6000	0.2	6	7.5(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects, mCal Technology	16-pi
MCP660	3	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	14-pi
MCP661	1	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	8-pin
MCP662	2	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	8-pin
MCP663	1	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip select	8-pin
MCP664	4	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output	14-pi
MCP665	2	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects	10-pi
MCP669	4	60 MHz	6000	8	6	6.8(3)	2.5 to 5.5	–40 to +125	Rail-to-Rail Output, Chip selects	16-pi
MIC920	1	80 MHz	550	5	260000	10	5.0 to 18	–40 to +85	High Output Drive, High Slew Rate	5-pin

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout
Note 1: Values are typical at 1 kHz **2:** Values are typical at 10 kHz **3:** Values are typical at 1 MHz

LINEAR: Zero-Drift Operational Amplifiers

Part #	# per Package	GBWP	Iq Max (mA)	Vos Max (µV)	Vos Drift Max (µV/°C)	Operating Voltage (V)	Temperature Range (°C)	Features
MCP6V11	1	80 kHz	0.011	8	0.05	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V12	2	80 kHz	0.011	8	0.05	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V14	4	80 kHz	0.011	8	0.05	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V16	1	80 kHz	0.011	25	0.15	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V17	2	80 kHz	0.011	25	0.15	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V19	4	80 kHz	0.011	25	0.15	1.6 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V31	1	300 kHz	0.034	8	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V32	2	300 kHz	0.034	8	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V34	4	300 kHz	0.034	8	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V36	1	300 kHz	0.034	25	0.15	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V37	2	300 kHz	0.034	25	0.15	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V39	4	300 kHz	0.034	25	0.15	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
TC7652	1	0.4 MHz	3	5	0.05	5 to 16	0 to +70	Single and Split Supply, Low Noise
MCP6V61	1	1 MHz	0.13	8	0.015	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V62	2	1 MHz	0.13	8	0.015	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V64	4	1 MHz	0.13	8	0.015	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V66	1	1 MHz	0.13	25	0.15	1.8 to 5.5	-40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V67	2	1 MHz	0.13	25	0.15	1.8 to 5.5	-40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V69	4	1 MHz	0.13	25	0.15	1.8 to 5.5	-40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection

LINEAR: Zero-Drift Operational Amplifiers

Part #	# per Package	GBWP	Io Max (mA)	Vos Max (µV)	Vos Drift Max (µV/°C)	Operating Voltage (V)	Temperature Range (°C)	Features
MCP6V01	1	1.3 MHz	0.4	2	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V02	2	1.3 MHz	0.4	2	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V03	1	1.3 MHz	0.4	2	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select
MCP6V06	1	1.3 MHz	0.4	3	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V07	2	1.3 MHz	0.4	3	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V08	1	1.3 MHz	0.4	3	0.05	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select
TC913A/B	2	1.5 MHz	1.1	15	0.15/0.30	7 to 16	0 to +70	Single and Split Supply
TC7650	1	2 MHz	3.5	5	0.05	4.5 to 16	0 to +70	Single and Split Supply
MCP6V26	1	2 MHz	0.8	2	0.05	2.3 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V27	2	2 MHz	0.8	2	0.05	2.3 to 5.5	–40 to +125	Rail-to-Rail Input/Output
MCP6V28	1	2 MHz	0.8	2	0.05	2.3 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Chip select
MCP6V51	1	2 MHz	0.59	15	0.038	4.5 to 45	–40 to +125	Rail-to-Rail Output, Enhanced EMI Rejection
MCP6V71	1	2 MHz	0.26	8	0.015	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V72	2	2 MHz	0.26	8	0.015	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V74	4	2 MHz	0.26	8	0.015	2.0 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V76	1	2 MHz	0.26	25	0.15	2.0 to 5.5	-40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V77	2	2 MHz	0.26	25	0.15	2.0 to 5.5	-40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V79	4	2 MHz	0.26	25	0.15	2.0 to 5.5	-40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V81	1	5 MHz	0.77	9	0.02	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V82	2	5 MHz	0.77	9	0.059	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V84	4	5 MHz	0.77	9	0.059	2.2 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V86	**1**	**5 MHz**	**0.77**	**25**	**0.15**	**2.2 to 5.5**	**–40 to +125**	**Rail-to-Rail Input/Output, Enhanced EMI Rejection**
MCP6V87	**2**	**5 MHz**	**0.77**	**25**	**0.15**	**2.2 to 5.5**	**–40 to +125**	**Rail-to-Rail Input/Output, Enhanced EMI Rejection**
MCP6V89	**4**	**5 MHz**	**0.77**	**25**	**0.15**	**2.2 to 5.5**	**–40 to +125**	**Rail-to-Rail Input/Output, Enhanced EMI Rejection**
MCP6V91	1	10 MHz	1.6	9	0.017	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V92	2	10 MHz	1.6	9	0.04	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection
MCP6V94	4	10 MHz	1.6	9	0.04	2.4 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enhanced EMI Rejection

LINEAR: Differential Amplifiers

Part #	# per Package	GBWP	Slew Rate (V/µs)	Iq Typical (mA)	Vos Max (µV)	Input Voltage Noise Density (nV/rtHz)	Operating Voltage (V)	Temperature Range (°C)	
MCP6D11	1	90 MHz	25	1.4	150	5	2.5 to 5.5	–40 to +125	Low noise po

LINEAR: Programmable Gain Amplifiers (PGA)

Part #	Channels	–3dB BW (MHz)	Iq Typ. (mA)	Vos (µV)	Operating Voltage (V)	Temperature Range (°C)	Features
MCP6S21	1	2 to 12	1.1	275	2.5 to 5.5	–40 to +85	SPI, Eight Gain steps, Software shutdown
MCP6S22	2	2 to 12	1.1	275	2.5 to 5.5	–40 to +85	SPI, Eight Gain steps, Software shutdown
MCP6S26	6	2 to 12	1.1	275	2.5 to 5.5	–40 to +85	SPI, Eight Gain steps, Software shutdown
MCP6S28	8	2 to 12	1.1	275	2.5 to 5.5	–40 to +85	SPI, Eight Gain steps, Software shutdown
MCP6S91	1	1 to 18	1.0	4000	2.5 to 5.5	–40 to +125	SPI, Eight Gain steps, Software shutdown, VREF
MCP6S92	2	1 to 18	1.0	4000	2.5 to 5.5	–40 to +125	SPI, Eight Gain steps, Software shutdown
MCP6S93	2	1 to 18	1.0	4000	2.5 to 5.5	–40 to +125	SPI, Eight Gain steps, Software shutdown, VREF, SO

LINEAR: Selectable Gain Amplifiers (SGA)

Part #	Channels	–3dB BW (kHz)	Iq (µA)	Vos (mV)	Operating Voltage (V)	Temperature Range (°C)	Gain Steps (V/V)	Features
MCP6G01	1	900	110	4.5	1.8 to 5.5	–40 to +125	1, 10, 50	Tri-State control pin
MCP6G02	2	900	110	4.5	1.8 to 5.5	–40 to +125	1, 10, 50	Tri-State control pin
MCP6G03	1	900	110	4.5	1.8 to 5.5	–40 to +125	1, 10, 50	Tri-State control pin, chip select
MCP6G04	4	900	110	4.5	1.8 to 5.5	–40 to +125	1, 10, 50	Tri-State control pin

LINEAR: Instrumentation Amplifiers

Part #	# Per Package	Bandwidth (kHz)	Iq Max (mA)	Max Vos (µV)	Vos Drift Max (µV/°C)	Operating Voltage (V)	Temperature Range (°C)	Features
MCP6N11	1	500	1.1	350	2.7	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, mCal Te
MCP6N16	1	500	1.6	17	0.06	1.8 to 5.5	–40 to +125	Rail-to-Rail Input/Output, Enable P Enhanced EMI Rejection

LINEAR: Comparators

Part #	# Per Package	V_{REF} (V)	Typical Propagation Delay (µs)	I_Q Typical (µA)	V_{OS} Max (mV)	Operating Voltage (V)	Temperature Range (°C)	Features
MCP6541	1	–	4	1	5	1.6 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6542	2	–	4	1	5	1.6 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6543	1	–	4	1	5	1.6 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output, Chip select
MCP6544	4	–	4	1	5	1.6 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6546	1	–	4	1	5	1.6 to 5.5	–40 to +125	Open-drain, 9V, Rail-to-Rail Input/Output
MCP6547	2	–	4	1	5	1.6 to 5.5	–40 to +125	Open-drain, 9V, Rail-to-Rail Input/Output
MCP6548	1	–	4	1	5	1.6 to 5.5	–40 to +125	Open-drain, 9V, Rail-to-Rail Input/Output, Chip select
MCP6549	4	–	4	1	5	1.6 to 5.5	–40 to +125	Open-drain, 9V, Rail-to-Rail Input/Output
MCP65R41	1	1.21/2.4	4	2.5	10	1.8 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output, V_{REF}
MCP65R46	1	1.21/2.4	4	2.5	10	1.8 to 5.5	–40 to +125	Open Drain, Rail-to-Rail Input/Output, V_{REF}
MCP6561	1	–	0.047	100	10	1.8 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6562	2	–	0.047	100	10	1.8 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6564	4	–	0.047	100	10	1.8 to 5.5	–40 to +125	Push-Pull, Rail-to-Rail Input/Output
MCP6566	1	–	0.047	100	10	1.8 to 5.5	–40 to +125	Open-Drain, Rail-to-Rail Input/Output
MCP6567	2	–	0.047	100	10	1.8 to 5.5	–40 to +125	Open-Drain, Rail-to-Rail Input/Output
MCP6569	4	–	0.047	100	10	1.8 to 5.5	–40 to +125	Open-Drain, Rail-to-Rail Input/Output
MIC6270	1	–	0.6	300	5	2.0 to 36	–40 to +85	Open Collector Output, High-Voltage
MIC7211	1	–	4	5	10	2.2 to 5.0	–40 to +85	Rail-to-Rail Input, Push-Pull Output
MIC7221	1	–	4	5	10	2.2 to 5.0	–40 to +85	Rail-to-Rail Input, Open-Drain Output
MIC833	1	1.25	5	1	–	1.5 to 5.5	–40 to +85	Windowed Comparator with Adjustable Hystersis
MIC841	1	1.25	12	1.5	–	1.5 to 5.5	–40 to +85	Windowed Comparator with Adjustable Hystersis, Pus Pull and Open-Drain Output Options
MIC842	1	1.25	12	1.5	–	1.5 to 5.5	–40 to +85	Windowed Comparator with Hystersis, Push-Pull and Open-Drain Output Options

Legend: S = Standard Pinout; R = Reverse Pinout; U = Alternative Pinout

LINEAR: Current Sense Amplifiers

Part #	# per Package	Input Common-Mode Range (V)	V_{OS} Max (uV)	V_{OS} Drift Max (nV/°C)	Max Gain Error (%)	Bandwidth (kHz)	Iq Max (mA)	Operating Voltage (V)	Temperature Range (°C)	
MCP6C02	1	3 to 65	16 (G=20), 14 (G=50), 12 (G=100)	85 (G=20), 70 (G=50), 65 (G=100)	1.6	500 (G=20), 500 (G=50), 350 (G=100)	0.75	2 to 5.5	–40 to +125	Bidirec E
MCP6C04	1	3 to 52	30 (G=20), 27 (G=50), 24 (G=100)	180 (G=20), 140 (G=50), 130 (G=100)	1.6	500 (G=20), 500 (G=50), 350 (G=100)	0.84	2 to 5.5	–40 to +125	Bidirec E

MIXED SIGNAL

MIXED SIGNAL: SUCCESSIVE APPROXIMATION REGISTER (SAR) A/D CONVERTERS

Part #	Resolution (bits)	Maximum Sampling Rate (ksamples/sec)	# of Input Channels	Input Type	Interface	Input Voltage Range (V)	Max. Supply Current (µA)	Max. INL	Temperature Range (°C)	
MCP3021	10	22	1	Single-ended	I²C	2.7 to 5.5	250	±1 LSB	–40 to +125	5-pi
MCP3001	10	200	1	Single-ended	SPI	2.7 to 5.5	500	±1 LSB	–40 to +85	8-pi
MCP3002	10	200	2	Single-ended	SPI	2.7 to 5.5	650	±1 LSB	–40 to +85	8-pi
MCP3004	10	200	4	Single-ended	SPI	2.7 to 5.5	550	±1 LSB	–40 to +85	14-p
MCP3008	10	200	8	Single-ended	SPI	2.7 to 5.5	550	±1 LSB	–40 to +85	16-p
MCP3221	12	22	1	Single-ended	I²C	2.7 to 5.5	250	±2 LSB	–40 to +125	5-pi
MCP3201	12	100	1	Single-ended	SPI	2.7 to 5.5	400	±1 LSB	–40 to +85	8-pi

MIXED SIGNAL: SUCCESSIVE APPROXIMATION REGISTER (SAR) A/D CONVERTERS

Part #	Resolution (bits)	Maximum Sampling Rate (ksamples/sec)	# of Input Channels	Input Type	Interface	Input Voltage Range (V)	Max. Supply Current (µA)	Max. INL	Temperature Range (°C)	
MCP3202	12	100	2	Single-ended	SPI	2.7 to 5.5	550	±1 LSB	–40 to +85	8-pi
MCP3204	12	100	4	Single-ended	SPI	2.7 to 5.5	400	±1 LSB	–40 to +85	14-p
MCP3208	12	100	8	Single-ended	SPI	2.7 to 5.5	400	±1 LSB	–40 to +85	16-p
MCP3301	13	100	1	Differential	SPI	2.7 to 5.5	450	±1 LSB	–40 to +85	8-pi
MCP3302	13	100	2	Differential	SPI	2.7 to 5.5	450	±1 LSB	–40 to +85	14-p
MCP3304	13	100	4	Differential	SPI	2.7 to 5.5	450	±1 LSB	–40 to +85	16-p
MCP33141-05	**12**	**500**	**1**	**Single-Ended**	**SPI**	**0V to 5.1V**	**900**		**–40 to +125**	**10-p**
MCP33141-10	**12**	**1 Msps**	**1**	**Single-Ended**	**SPI**	**0V to 5.1V**	**900**		**–40 to +125**	**10-p**
MCP33141D-05	**12**	**500**	**1**	**Differential**	**SPI**	**±5.1V**	**900**		**–40 to +125**	**10-p**
MCP33141D-10	**12**	**1 Msps**	**1**	**Differential**	**SPI**	**±5.1V**	**900**		**–40 to +125**	**10-p**
MCP33151-05	**14**	**500**	**1**	**Single-Ended**	**SPI**	**0V to 5.1V**	**900**	**±1.5**	**–40 to +125**	**10-p**
MCP33151-10	**14**	**1 Msps**	**1**	**Single-Ended**	**SPI**	**0V to 5.1V**	**900**	**±1.5**	**–40 to +125**	**10-p**
MCP33151D-05	**14**	**500**	**1**	**Differential**	**SPI**	**±5.1V**	**900**	**±1.5**	**–40 to +125**	**10-p**
MCP33151D-10	**14**	**1 Msps**	**1**	**Differential**	**SPI**	**±5.1V**	**900**	**±1.5**	**–40 to +125**	**10-p**
MCP33111-05	**12**	**500**	**1**	**Single-Ended**	**SPI**	**0V to 5.1V**	**2400**		**–40 to +125**	**10-p**
MCP33111-10	**12**	**1 Msps**	**1**	**Single-Ended**	**SPI**	**0V to 5.1V**	**2400**		**–40 to +125**	**10-p**
MCP33111D-05	**12**	**500**	**1**	**Differential**	**SPI**	**±5.1V**	**2400**		**–40 to +125**	**10-p**
MCP33111D-10	**12**	**1 Msps**	**1**	**Differential**	**SPI**	**±5.1V**	**2400**		**–40 to +125**	**10-p**
MCP33121-05	**14**	**500**	**1**	**Single-Ended**	**SPI**	**0V to 5.1V**	**2400**	**±1.5**	**–40 to +125**	**10-p**
MCP33121-10	**14**	**1 Msps**	**1**	**Single-Ended**	**SPI**	**0V to 5.1V**	**2400**	**±1.5**	**–40 to +125**	**10-p**
MCP33121D-05	**14**	**500**	**1**	**Differential**	**SPI**	**±5.1V**	**2400**	**±1.5**	**–40 to +125**	**10-p**
MCP33121D-10	**14**	**1 Msps**	**1**	**Differential**	**SPI**	**±5.1V**	**2400**	**±1.5**	**–40 to +125**	**10-p**
MCP33131-05	**16**	**500**	**1**	**Single-Ended**	**SPI**	**0V to 5.1V**	**2400**	**±6**	**–40 to +125**	**10-p**
MCP33131-10	**16**	**1 Msps**	**1**	**Single-Ended**	**SPI**	**0V to 5.1V**	**2400**	**±6**	**–40 to +125**	**10-p**
MCP33131D-05	**16**	**500**	**1**	**Differential**	**SPI**	**±5.1V**	**2400**	**±6**	**–40 to +125**	**10-p**
MCP33131D-10	**16**	**1 Msps**	**1**	**Differential**	**SPI**	**±5.1V**	**2400**	**±6**	**–40 to +125**	**10-p**

MIXED SIGNAL: Delta-Sigma A/D Converters

Part #	Resolution (bits)	Maximum Sampling Rate (samples/sec)	# of Input Channels	Interface	Supply Voltage Range (V)	Typical Supply Current (µA)	Typical INL (ppm)	Temperature Range (°C)	Features
MCP3421	18 to 12	4 to 240	1 Diff	I²C	2.7 to 5.5	155	10	–40 to +125	PGA, VREF
MCP3422	18 to 12	4 to 240	2 Diff	I²C	2.7 to 5.5	145	10	–40 to +125	PGA, VREF
MCP3423	18 to 12	4 to 240	2 Diff	I²C	2.7 to 5.5	145	10	–40 to +125	PGA, VREF, Selectable I²C addressing
MCP3424	18 to 12	4 to 240	4 Diff	I²C	2.7 to 5.5	145	10	–40 to +125	PGA, VREF, Selectable I²C addressing
MCP3425	16 to 12	15 to 240	1 Diff	I²C	2.7 to 5.5	155	10	–40 to +125	PGA, VREF
MCP3426	16 to 12	15 to 240	2 Diff	I²C	2.7 to 5.5	145	10	–40 to +125	PGA, VREF
MCP3427	16 to 12	15 to 240	2 Diff	I²C	2.7 to 5.5	145	10	–40 to +125	PGA, VREF, Selectable I²C addressing
MCP3428	16 to 12	15 to 240	4 Diff	I²C	2.7 to 5.5	145	10	–40 to +125	PGA, VREF, Selectable I²C addressing
MCP3461	**16**	**153.6k**	**1**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**One Differential or Two Single-e Channels, 153.6 kSPS, Low-Nois Sigma ADCs**
MCP3462	**16**	**153.6k**	**2**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**Two Differential or Four Single-e Channels, 153.6 kSPS, Low-Nois Sigma ADCs**

MIXED SIGNAL: Delta-Sigma A/D Converters

Part #	Resolution (bits)	Maximum Sampling Rate (samples/sec)	# of Input Channels	Interface	Supply Voltage Range (V)	Typical Supply Current (µA)	Typical INL (ppm)	Temperature Range (°C)	Features
MCP3464	**16**	**153.6k**	**4**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**Four Differential or Eight Single-e Channels, 153.6 kSPS, Low-Nois Sigma ADCs**
MCP3561	**24**	**153.6k**	**1**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**One Differential or Two Single-en Channels, 153.6 kSPS, Low-Nois Sigma ADCs**
MCP3562	**24**	**153.6k**	**2**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**Two Differential or Four Single-e Channels, 153.6 kSPS, Low-Nois Sigma ADCs**
MCP3564	**24**	**153.6k**	**4**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**Four Differential or Eight Single-e Channels, 153.6 kSPS, Low-Nois Sigma ADCs**
MCP3461R	**16**	**153.6k**	**1**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**One Differential or Two Single-en Channels, 153.6 kSPS, Low-Nois Sigma ADCs with VREF**
MCP3462R	**16**	**153.6k**	**2**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**Two Differential or Four Single-e Channels, 153.6 kSPS, Low-Nois Sigma ADCs with VREF**
MCP3464R	**16**	**153.6k**	**4**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**Four Differential or Eight Single-e Channels, 153.6 kSPS, Low-Nois Sigma ADCs with VREF**
MCP3465R	**24**	**153.6k**	**1**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**One Differential or Two Single-en Channels, 153.6 kSPS, Low-Nois Sigma ADCs with VREF**
MCP3561R	**24**	**153.6k**	**1**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**One Differential or Two Single-en Channels, 153.6 kSPS, Low-Nois Sigma ADCs with VREF**
MCP3562R	**24**	**153.6k**	**2**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**Two Differential or Four Single-e Channels, 153.6 kSPS, Low-Nois Sigma ADCs with VREF**
MCP3564R	**24**	**153.6k**	**4**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**Four Differential or Eight Single-e Channels, 153.6 kSPS, Low-Nois Sigma ADCs with VREF**
MCP3565R	**24**	**153.6k**	**1**	**SPI**	**2.7 to 3.6**	**930**	**7**	**–40 to +125**	**One Differential or Two Single-en Channels, 153.6 kSPS, Low-Nois Sigma ADCs with VREF**
MCP3550-50	22	13	1 Diff	SPI	2.7 to 5.5	120	2	–40 to +125	50 Hz rejection
MCP3550-60	22	15	1 Diff	SPI	2.7 to 5.5	140	2	–40 to +125	60 Hz rejection
MCP3551	22	14	1 Diff	SPI	2.7 to 5.5	120	2	–40 to +125	Simultaneous 50/60 Hz rejection
MCP3553	20	60	1 Diff	SPI	2.7 to 5.5	140	2	–40 to +125	

MIXED SIGNAL: Pipelined A/D Converters

Part #	Resolution	Max Sample Rate (Msamples/sec)	# of Input Channels	Input Type	Interface	Supply Voltage (V)	Power Dissipation (mW)	Input Channel BW (MHz)	SNR (dB)	SFDR (dB)	Input Range (Vp-p)	Features
MCP37D31-200	16	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	490	500	74.7	90	2.98	Decimation filters, digital do converter, AEC-Q100 Grade TFBGA package)
MCP37231-200	16	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	490	500	74.7	90	2.98	Decimation filters, AEC-Q10 Grade 1 (only TFBGA packa
MCP37D20-200	14	200	1	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	348	650	67.8	96	1.8	Decimation filters, digital do converter
MCP37220-200	14	200	1	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	348	650	67.8	96	1.8	Decimation filters
MCP37D21-200	14	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	490	500	74.2	90	2.98	Decimation filters, digital do converter, AEC-Q100 Grade TFBGA package)
MCP37221-200	14	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	490	500	74.2	90	2.98	Decimation filters, AEC-Q10 Grade 1 (only TFBGA packag
MCP37D10-200	12	200	1	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	338	650	67	96	1.8	Decimation filters, digital down-converter, noise-shap requantizer

MIXED SIGNAL: Pipelined A/D Converters

Part #	Resolution	Max Sample Rate (Msamples/sec)	# of Input Channels	Input Type	Interface	Supply Voltage (V)	Power Dissipation (mW)	Input Channel BW (MHz)	SNR (dB)	SFDR (dB)	Input Range (Vp-p)	Features
MCP37210-200	12	200	1	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	338	650	67	96	1.8	Decimation filters, noise-sha requantizer
MCP37D11-200	12	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	468	500	71.3	90	2.98	Decimation filters, digital do converter, AEC-Q100 Grade TFBGA package)
MCP37211-200	12	200	1, 2, 4, 8	Differential	Serial DDR LVDS or Parallel CMOS	1.2, 1.8	468	500	71.3	90	2.98	Decimation filters, noise sha requantizer
MCP37D31-80	**16**	**80**	**1, 2, 4, 8**	**Differential**	**Serial DDR LVDS or Parallel CMOS**	**1.2, 1.8**	**329**	**500**	**73.9**	**93**	**2.98**	**Decimation filters, digital down-converter, AEC-Q10 automotive qualification**
MCP37D21-80	**14**	**80**	**1, 2, 4, 8**	**Differential**	**Serial DDR LVDS or Parallel CMOS**	**1.2, 1.8**	**320**	**500**	**73.9**	**93**	**2.98**	**Decimation filters, digital down-converter, AEC-Q10 automotive qualification**
MCP37D11-80	**12**	**80**	**1, 2, 4, 8**	**Differential**	**Serial DDR LVDS or Parallel CMOS**	**1.2, 1.8**	**311**	**500**	**70.9**	**92.2**	**2.98**	**Decimation filters, digital down-converter, AEC-Q10 automotive qualification**

MIXED SIGNAL: Energy Metering and Power Monitoring ICs

Part #	Dynamic Range	Power System	Typical Accuracy	Input Channels	ADC Resolution	Event Monitoring	Zero-Cross Detection Pin	Output Type	V_{DD} (V)	Temperature Range (°C)	Feature
MCP39F511	4000:1	Single Phase	0.1%	I, V, Temp.	24-bit	5	Yes	UART/ Single-wire	2.7 to 3.6	–40 to +125	Power monitoring IC with active, reactive and a energy, PF, RMS current/voltage, frequency, ev
MCP39F521	4000:1	Single Phase	0.1%	I, V, Temp.	24-bit	4	Yes	I²C	2.7 to 3.6	–40 to +125	Power monitoring IC with active, reactive and a energy, PF, RMS current/voltage, frequency, e
MCP39F511N	4000:1	Single Phase	0.5%	I1, I2, V	24-bit	6	Yes	UART	2.7 to 3.6	–40 to +125	Dual-channel power monitoring IC with activ active and reactive energy, PF, RMS current notifications, EEPROM, PWM output
MCP39F511A	4000:1	Single Phase	0.1%	I, V, Temp	24-bit	5	Yes	UART/ Single-wire	2.7 to 3.	–40 to +125	AC & DC dual-mode power monitoring IC w power, active and reactive energy, PF, RMS notifications, EEPROM, PWM output
MCP3905A/ 06A	500:1/ 1000:1	Single Phase	0.10%	I, V	16-bit	–	–	Active Power Pulse	4.5 to 5.5	–40 to +125	Active power calculation
ATM90E26	5000:1	Single Phase	0.1%	I, V, N	N/A	1	Yes	SPI/UART/ Pulse	2.8 to 3.6	–40 to +85	Single-phase energy meter IC with active, rea reactive energy, PF, RMS current/voltage, an
ATM90E32AS	6000:1	Poly-phase	0.1%	3xI, 3xV	N/A	8	Yes	SPI/Pulse	2.8 to 3.6	–40 to +85	Three-phase energy meter IC with active, rea energy, PF, RMS current/voltage, frequency measurement, event notifications, temperatu
ATM90E36A	6000:1	Poly-phase	0.1%	3xI, 3xV, N	N/A	5	Yes	SPI/Pulse	2.8 to 3.6	–40 to +85	Three-phase energy meter IC with active, rea energy, PF, RMS current/voltage, frequency harmonic measurement, event notifications,

MIXED SIGNAL: Energy Measurement AFEs

Part #	Dynamic Range	Typical Accuracy	ADC Channels	ADC Resolution	SINAD	Gain Selection	Output Type	V_{DD} (V)	Temperature Range (°C)	Features
MCP3918/10	10000:1	0.1%	1/2	24-bit	93.5	Up to 32	SPI/2-wire	2.7 to 3.6	–40 to +125	AFE with phase correction, Programmable data rate 2-wire interface
MCP3919	10000:1	0.1%	3	24-bit	93.5	Up to 32	SPI/2-wire	2.7 to 3.6	–40 to +125	AFE with phase correction, Programmable data rate 2-wire interface
MCP3912	10000:1	0.1%	4	24-bit	93.5	Up to 32	SPI	2.7 to 3.6	–40 to +125	AFE with phase correction, Programmable data rate
MCP3913/14	10000:1	0.1%	6/8	24-bit	94.5	Up to 32	SPI	2.7 to 3.6	–40 to +125	AFE with phase correction, Programmable data rate
ATSENSE101	3000:1	0.1%	3	16/32-bit	84	Up to 8	SPI	3.0 to 3.6	–40 to +85	Die temperature sensor
ATSENSE201(H)	3000:1	0.1%	4	16/32-bit	84	Up to 8	SPI	3.0 to 3.6	–40 to +85	Die temperature sensor
ATSENSE301(H)	3000:1	0.1%	7	16/32-bit	84	Up to 8	SPI	3.0 to 3.6	–40 to +85	Die temperature sensor

MIXED SIGNAL: DC Power Monitors

Part #	# of Current Sensors	Description	Full Scale Range (mV)	Current Measurement Max Accr (%)	Effective Sampling Interval Min to Max (msec)	Bus Voltage Range (V)	# of Temp. Monitors (Ambient, Remote)	Temp. Accuracy Typ/Max (°C)	Alert/ THERM
PAC1710	1	SMBus/I²C Current/DC Power Sensor	10, 20, 40, 80	±1	2.5 to 2,600	0 to + 40	–	–	1
PAC1720	2	Dual SMBus/I²C Current/DC Power Sensor	10, 20, 40, 80	±1	2.5 to 2,600	0 to + 40	–	–	1
PAC1921	2	SMBus/I²C Current/Power Sensor with Analog Output	100	±1	2.5 to 2,900	0 to + 32	–	–	–
PAC1931	**1**	**SMBus/I²C Current/Power Sensor with Accumulator**	**100**	**±0.9**	**0.98 to 125**	**0 to +32**	**–**	**–**	**1**
PAC1932	2	SMBus/I²C Current/Power Sensor with Accumulator	100	±0.9	0.98 to 125	0 to +32	–	–	1
PAC1933	3	SMBus/I²C Current/Power Sensor with Accumulator	100	±0.9	0.98 to 125	0 to +32	–	–	1
PAC1934	4	SMBus/I²C Current/Power Sensor with Accumulator	100	±0.9	0.98 to 125	0 to + 32	–	–	1
EMC1701-1	1	SMBus/I²C Current/DC Power Sensor with Temperature Monitoring	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 0	±0.25/±1	2
EMC1701-2	1	SMBus/I²C Current/DC Power Sensor with Temperature Monitoring	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 0	±0.25/±1	2
EMC1702-1	1	SMBus/I²C Current/DC Power Sensor with Two Temperature Monitors	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 1	±0.25/±1	2
EMC1704-1	1	SMBus/I²C Current/DC Power Sensor with Four Temperature Monitors	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 3	±0.25/±1	2
EMC1704-2	1	SMBus/I²C Current/DC Power Sensor with Four Temperature Monitors	10, 20, 40, 80	±1	2.5 to 2,600	+3 to +24	1, 3	±0.25/±1	2

MIXED SIGNAL: Dual-Slope A/D Converters

Part #	Supply Voltage (V)	Input Voltage Range	Resolution	Sampling Rate (Conv/s)	Input Channels	Data Interface	Temperature Range (°C)	Features
TC500	±4.5 to ±7.5	V_{SS} + 1.5V to V_{DD} – 1.5V	Up to 16 bits	4 to 10	1	3-Wire	0 to +70	Differential input range, Programmable resolution/ conversion time
TC500A	±4.5 to ±7.5	V_{SS} + 1.5V to V_{DD} – 1.5V	Up to 17 bits	4 to 10	1	3-Wire	0 to +70	Differential input range, Programmable resolution/ conversion time
TC510	+4.5 to +5.5	V_{SS} + 1.5V to V_{DD} – 1.5V	Up to 17 bits	4 to 10	1	3-Wire	0 to +70	Differential input range, Programmable resolution/ conversion time, Charge pump (–V) output pin
TC514	+4.5 to +5.5	V_{SS} + 1.5V to V_{DD} – 1.5V	Up to 17 bits	4 to 10	4	3-Wire	0 to +70	Differential input range, Programmable resolution/ conversion time, Charge pump (–V) output pin
TC520A	+4.5 to +5.5	–	–	–	–	Serial port	0 to +70	Optional serial interface adapter for TC500/500A/5
TC7109	±4.5 to ±5.5	V_{SS} + 1.5V to V_{DD} – 1.0V	12 bits plus sign bit	2 to 10	1	Parallel or Serial port	–25 to +85	Differential input range
TC7109A	±4.5 to ±5.5	V_{SS} + 1.5V to V_{DD} – 1.0V	12 bits plus sign bit	2 to 10	1	Parallel or Serial port	–25 to +85	Differential input range

MIXED SIGNAL: Binary and BCD A/D Converters

Part #	Description	Supply Voltage (V)	Input Voltage Range	Resolution (Digits)	Resolution (Counts)	Max Power (mW)	Data Interface	Temperature Range (°C)	Features
TC850	Binary A/D	±5	V_{SS} + 1.5V to V_{DD} – 1.5V	15-bit	±32,768	35	8-bit parallel	–25 to +70	Highest conversion speed (40 conv/
TC14433	BCD A/D	±4.5 to ±8	±199.9 mV to 1.999V	3½	±2,000	20	MUXed BCD	–40 to +85	For DMM, DPM, Data loggers
TC14433A	BCD A/D	±4.5 to ±8	±199.9 mV to 1.999V	3½	±2,000	20	MUXed BCD	–40 to +85	For DMM, DPM, Data loggers

MIXED SIGNAL: Display A/D Converters

Part #	Display Type	Supply Voltage (V)	Resolution (Digits)	Resolution (Counts)	Power (mW)	Temperature Range (°C)	Features
TC7106	LCD	9	3½	±2,000	10	–25 to +85	For DMM, DPM, Data logger applicat
TC7106A	LCD	9	3½	±2,000	10	–25 to +85	For DMM, DPM, Data logger applicat
TC7107	LED	±5	3½	±2,000	10	–25 to +85	For DMM, DPM, Data logger applicat
TC7107A	LED	±5	3½	±2,000	10	–25 to +85	For DMM, DPM, Data logger applicat
TC7116	LCD	9	3½	±2,000	10	–25 to +85	Hold function
TC7116A	LCD	9	3½	±2,000	10	–25 to +85	Hold function
TC7117	LED	±5	3½	±2,000	10	–25 to +85	Hold function
TC7117A	LED	±5	3½	±2,000	10	–25 to +85	Hold function
TC7126	LCD	9	3½	±2,000	0.5	–25 to +85	Low-power TC7106
TC7126A	LCD	9	3½	±2,000	0.5	–25 to +85	Low-power TC7106
TC7129	LCD	9	4½	±20,000	4.5	0 to +70	Lowest noise ±3 mV sensitivity

MIXED SIGNAL: Digital Potentiometers

Part #	# of Taps	Memory	# Per Package	Interface	Resistance (kOhms)	INL (Max)	DNL (Max)	Temperature Range (°C)	Comments	
MCP4011	64	Volatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Potentiometer mode	8-pin SOI
MCP4012	64	Volatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Rheostat mode	6-pin SOT
MCP4013	64	Volatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Potentiometer to Vss	6-pin SOT
MCP4014	64	Volatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Rheostat to Vss	5-pin SOT
MCP4017	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	7-bit, Volatile, I²C digital potentiometer	6-pin SC-
MCP4018	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	7-bit, Volatile, I²C digital potentiometer	6-pin SC-
MCP4019	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	7-bit, Volatile, I²C digital potentiometer	5-pin SC-
MCP40D17	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	7-bit, Volatile, I²C digital potentiometer	6-pin SC-
MCP40D18	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	7-bit, Volatile, I²C digital potentiometer	6-pin SC-
MCP40D19	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	7-bit, Volatile, I²C digital potentiometer	5-pin SC-
MCP4021	64	Nonvolatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Potentiometer mode, Shutdown, WiperLock™ Technology	8-pin SOI
MCP4022	64	Nonvolatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Rheostat mode, Shutdown, WiperLock Technology	6-pin SOT
MCP4023	64	Nonvolatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Potentiometer to Vss, WiperLock Technology	6-pin SOT
MCP4024	64	Nonvolatile	1	Up/Down	2.1, 5, 10, 50	0.5	0.5	–40 to +125	Rheostat to Vss, Shutdown, WiperLock Technology	5-pin SOT
MCP4141	128	Nonvolatile	1	SPI	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, Shutdown	8-pin PDIP
MCP4142	128	Nonvolatile	1	SPI	5, 10, 50, 100	0.8	0.25	–40 to +125	Rheostat mode, Shutdown	8-pin PDIP
MCP4241	128	Nonvolatile	2	SPI	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, Shutdown, WiperLock Technology	14-pin PDI
MCP4242	128	Nonvolatile	2	SPI	5, 10, 50, 100	0.8	0.25	–40 to +125	Rheostat mode, Shutdown	10-pin MS
MCP4131	129	Volatile	1	SPI	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, Shutdown	8-pin PDIP
MCP41HV31	128	Volatile	1	SPI	5, 10, 50, 100	0.5	0.125	–40 to +125	7-bit Volatile digital potentiometer with specified operation from 10V to 36V and SPI interface	14-pin TSS
MCP4132	129	Volatile	1	SPI	5, 10, 50, 100	0.8	0.25	–40 to +125	Rheostat mode, Shutdown	8-pin PDIP
MCP4231	128	Volatile	2	SPI	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, Shutdown, WiperLock Technology	14-pin PDI
MCP4232	128	Volatile	2	SPI	5, 10, 50, 100	0.8	0.25	–40 to +125	Rheostat mode, Shutdown	10-pin MS
MCP41010	256	Volatile	1	SPI	10	1	1	–40 to +85	Potentiometer mode, Shutdown	8-pin PDIP
MCP41050	256	Volatile	1	SPI	50	1	1	–40 to +85	Potentiometer mode, Shutdown	8-pin PDIP
MCP41100	256	Volatile	1	SPI	100	1	1	–40 to +85	Potentiometer mode, Shutdown	8-pin PDIP
MCP4151	256	Volatile	1	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, Shutdown	8-pin PDIP
MCP41HV51	256	Volatile	1	SPI	5, 10, 50, 100	1	0.25	–40 to +125	8-bit Volatile digital potentiomer with specified operation from 10V to 36V and SPI interface.	14-pin TSS
MCP4152	256	Volatile	1	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, Shutdown	8-pin PDIP
MCP4161	256	Nonvolatile	1	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, Shutdown	8-pin PDIP
MCP4162	256	Nonvolatile	1	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, Shutdown	8-pin PDIP
MCP42010	256	Volatile	2	SPI	10	1	1	–40 to +85	Potentiometer mode, Shutdown	14-pin PD
MCP42100	256	Volatile	2	SPI	100	1	1	–40 to +85	Potentiometer mode, Shutdown	14-pin PD
MCP4251	256	Volatile	2	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, Shutdown, WiperLock Technology	14-pin PDI
MCP4252	256	Volatile	2	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, Shutdown	10-pin MS
MCP4261	256	Nonvolatile	2	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, Shutdown, WiperLock Technology	14-pin PDI
MCP4262	256	Nonvolatile	2	SPI	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, Shutdown	10-pin MS
MCP4341	129	Nonvolatile	4	SPI	5, 10, 50, 100	0.8	0.375	–40 to +125	7-bit, Volatile potentiometer with an SPI interface	20-pin TSS
MCP4342	129	Nonvolatile	4	SPI	5, 10, 50, 100	0.8	0.375	–40 to +125	7-bit, Volatile rheostat with an SPI interface	14-pin TSS
MCP4361	257	Nonvolatile	4	SPI	5, 10, 50, 100	1	0.5	–40 to +125	8-bit, Non-volatile potentiometer with an SPI interface	20-pin TSS
MCP4362	257	Nonvolatile	4	SPI	5, 10, 50, 100	1	0.5	–40 to +125	8-bit, Non-volatile rheostat with an SPI interface	14-pin TSS
MCP4331	129	Volatile	4	SPI	5, 10, 50, 100	0.8	0.375	–40 to +125	7-bit, Volatile potentiometer with an SPI interface	20-pin TSS
MCP4332	129	Volatile	4	SPI	5, 10, 50, 100	0.8	0.5	–40 to +125	7-bit, Volatile rheostat with an SPI interface	14-pin TSS
MCP4351	257	Volatile	4	SPI	5, 10, 50, 100	1	0.5	–40 to +125	8-bit, Non-volatile potentiometer with an SPI interface	20-pin TSS
MCP4352	257	Volatile	4	SPI	5, 10, 50, 100	1	0.5	–40 to +125	8-bit, Non-volatile rheostat with an SPI interface	14-pin TSS
MCP4441	129	Nonvolatile	4	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, WiperLock Technology	20-pin TSS
MCP4442	129	Nonvolatile	4	I²C	5, 10, 50, 100	0.8	0.375	–40 to +125	Rheostat mode, WiperLock Technology	14-pin TSS
MCP4461	257	Nonvolatile	4	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, WiperLock Technology	8-pin MSO
MCP4462	257	Nonvolatile	4	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, WiperLock Technology	14-pin TSS
MCP4531	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode	14-pin TSS
MCP45HV31	128	Volatile	1	I²C	5, 10, 50, 100	0.5	0.125	–40 to +125	7-bit volatile digital potentiometer with specified operation from 10V to 36V and I²C interface	14-pin TSS
MCP45HV51	256	Volatile	1	I²C	5, 10, 50, 100	1	0.25	–40 to +125	7-bit volatile digital potentiometer with specified operation from 10V to 36V and I²C interface	8-pin MSO

MIXED SIGNAL: Digital Potentiometers

Part #	# of Taps	Memory	# Per Package	Interface	Resistance (kOhms)	INL (Max)	DNL (Max)	Temperature Range (°C)	Comments	
MCP4631	128	Volatile	2	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode	14-pin TS
MCP4541	128	Nonvolatile	1	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, WiperLock Technology	8-pin MS
MCP4641	128	Nonvolatile	2	I²C	5, 10, 50, 100	0.5	0.25	–40 to +125	Potentiometer mode, WiperLock Technology	14-pin TS
MCP4651	256	Volatile	2	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode	14-pin TS
MCP4561	256	Nonvolatile	1	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, WiperLock Technology	8-pin MS
MCP4661	256	Nonvolatile	2	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Potentiometer mode, WiperLock Technology	14-pin TS
MCP4532	128	Nonvolatile	1	I²C	5, 10, 50, 100	0.8	0.375	–40 to +125	Rheostat mode	8-pin MS
MCP4632	128	Volatile	2	I²C	5, 10, 50, 100	0.8	0.375	–40 to +125	Rheostat mode	10-pin MS
MCP4542	128	Nonvolatile	1	I²C	5, 10, 50, 100	0.8	0.375	–40 to +125	Rheostat mode, WiperLock Technology	8-pin MS
MCP4552	256	Volatile	1	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode	8-pin MS
MCP4652	256	Nonvolatile	2	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode	10-pin MS
MCP4562	256	Nonvolatile	1	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, WiperLock Technology	8-pin MS
MCP4662	256	Nonvolatile	2	I²C	5, 10, 50, 100	1	0.5	–40 to +125	Rheostat mode, WiperLock Technology	10-pin MS

MIXED SIGNAL: Frequency-to-Voltage/Voltage-to-Frequency Converters

Part #	Frequency Range (kHz)	Full Scale (ppm FS/°C)	Non-linearity (%FS)	Temperature Range (°C)	
TC9400	100	±40	±0.05	–40 to +85	14-
TC9401	100	±40	±0.02	–40 to +85	14-
TC9402	100	±100	±0.25	–40 to +85	14-

MIXED SIGNAL: D/A Converters

Part #	Resolution (Bits)	DAC Channels	Interface	Memory	Voltage Reference	Output Setting Time (µs)	DNL (LSB)	INL (LSB)	Max Operating Current (µA)	Temperature Range (°C)	
MCP47CMB01	8	1	I²C	MTP	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3
MCP47CMB02	8	2	I²C	MTP	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3
MCP47CMB11	10	1	I²C	MTP	V_{DD}, Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin 3
MCP47CMB12	10	2	I²C	MTP	V_{DD}, Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin 3
MCP47CMB21	12	1	I²C	MTP	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3
MCP47CMB22	12	2	I²C	MTP	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3
MCP47CVB01	8	1	I²C	Volatile	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3
MCP47CVB02	8	2	I²C	Volatile	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3
MCP47CVB11	10	1	I²C	Volatile	V_{DD}, Ext, Int	16	±0.25	±0.25	700	–40 to +125	10-pin 3
MCP47CVB12	10	2	I²C	Volatile	V_{DD}, Ext, Int	16	±0.25	±0.25	700	–40 to +125	10-pin 3
MCP47CVB21	12	1	I²C	Volatile	V_{DD}, Ext, Int	16	1	1	700	–40 to +125	10-pin 3
MCP47CVB22	12	2	I²C	Volatile	V_{DD}, Ext, Int	16	1	1	700	–40 to +125	10-pin 3
MCP48CMB01	8	1	I²C	MTP	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3
MCP48CMB02	8	2	I²C	MTP	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3
MCP48CMB11	10	1	I²C	MTP	V_{DD}, Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin 3
MCP48CMB12	10	2	I²C	MTP	V_{DD}, Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin 3
MCP48CMB21	12	1	I²C	MTP	V_{DD}, Ext, Int	16	1	1	700	–40 to +125	10-pin 3
MCP48CMB22	12	2	I²C	MTP	V_{DD}, Ext, Int	16	1	1	700	–40 to +125	10-pin 3
MCP48CVB01	8	1	I²C	Volatile	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3
MCP48CVB02	8	2	I²C	Volatile	V_{DD}, Ext, Int	16	0.1	0.1	700	–40 to +125	10-pin 3
MCP48CVB11	10	1	I²C	Volatile	V_{DD}, Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin 3
MCP48CVB12	10	2	I²C	Volatile	V_{DD}, Ext, Int	16	0.25	0.25	700	–40 to +125	10-pin 3
MCP48CVB21	12	1	I²C	Volatile	V_{DD}, Ext, Int	16	1	1	700	–40 to +125	10-pin 3
MCP48CVB22	12	2	I²C	Volatile	V_{DD}, Ext, Int	16	1	1	700	–40 to +125	10-pin 3
MCP48FEB01	8	1	SPI	EEPROM	V_{DD}, V_{REF}, V_{BG}	7.8	0.25	0.5	180	–40 to +125	8-pin MS
MCP48FEB11	10	1	SPI	EEPROM	V_{DD}, V_{REF}, V_{BG}	7.8	0.5	1.5	180	–40 to +125	8-pin MS
MCP48FEB21	12	1	SPI	EEPROM	V_{DD}, V_{REF}, V_{BG}	7.8	1	6	180	–40 to +125	8-pin MS
MCP48FEB02	8	2	SPI	EEPROM	V_{DD}, V_{REF}, V_{BG}	7.8	0.25	0.5	380	–40 to +125	8-pin MS

MIXED SIGNAL: D/A Converters

Part #	Resolution (Bits)	DAC Channels	Interface	Memory	Voltage Reference	Output Setting Time (µs)	DNL (LSB)	INL (LSB)	Max Operating Current (µA)	Temperature Range (°C)	
MCP48FEB12	10	2	SPI	EEPROM	V_{DD}, V_{REF}, V_{BG}	7.8	0.5	1.5	380	–40 to +125	8-pin MS
MCP48FEB22	12	2	SPI	EEPROM	V_{DD}, V_{REF}, V_{BG}	7.8	1	6	380	–40 to +125	8-pin MS
MCP48FVB01	8	1	SPI	Volatile	V_{DD}, V_{REF}, V_{BG}	7.8	0.25	0.5	180	–40 to +125	8-pin MS
MCP48FVB11	10	1	SPI	Volatile	V_{DD}, V_{REF}, V_{BG}	7.8	0.5	1.5	180	–40 to +125	8-pin MS
MCP48FVB21	12	1	SPI	Volatile	V_{DD}, V_{REF}, V_{BG}	7.8	1	6	180	–40 to +125	8-pin MS
MCP48FVB02	8	2	SPI	Volatile	V_{DD}, V_{REF}, V_{BG}	7.8	0.25	0.5	380	–40 to +125	8-pin MS
MCP48FVB12	10	2	SPI	Volatile	V_{DD}, V_{REF}, V_{BG}	7.8	0.5	1.5	380	–40 to +125	8-pin MS
MCP48FVB22	12	2	SPI	Volatile	V_{DD}, V_{REF}, V_{BG}	7.8	1	6	380	–40 to +125	8-pin MS
MCP47FEB04	**8**	**4**	**I²C**	**EEPROM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.0125**	**±0.1**	**1000**	**-40 to +125**	**VQFN-2**
MCP47FEB14	**10**	**4**	**I²C**	**EEPROM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.05**	**±0.4**	**1000**	**-40 to +125**	**VQFN-2**
MCP47FEB24	**12**	**4**	**I²C**	**EEPROM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.2**	**±1.5**	**1000**	**-40 to +125**	**VQFN-2**
MCP47FEB08	**8**	**8**	**I²C**	**EEPROM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.0125**	**±0.1**	**1800**	**-40 to +125**	**VQFN-2**
MCP47FEB18	**10**	**8**	**I²C**	**EEPROM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.05**	**±0.4**	**1800**	**-40 to +125**	**VQFN-2**
MCP47FEB28	**12**	**8**	**I²C**	**EEPROM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.2**	**±1.5**	**1800**	**-40 to +125**	**VQFN-2**
MCP47FVB04	**8**	**4**	**I²C**	**RAM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.0125**	**±0.1**	**1000**	**-40 to +125**	**VQFN-2**
MCP47FVB14	**10**	**4**	**I²C**	**RAM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.05**	**±0.4**	**1000**	**-40 to +125**	**VQFN-2**
MCP47FVB24	**12**	**4**	**I²C**	**RAM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.2**	**±1.5**	**1000**	**-40 to +125**	**VQFN-2**
MCP47FVB08	**8**	**8**	**I²C**	**RAM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.0125**	**±0.1**	**1800**	**-40 to +125**	**VQFN-2**
MCP47FVB18	**10**	**8**	**I²C**	**RAM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.05**	**±0.4**	**1800**	**-40 to +125**	**VQFN-2**
MCP47FVB28	**12**	**8**	**I²C**	**RAM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.2**	**±1.5**	**1800**	**-40 to +125**	**VQFN-2**
MCP48FEB04	**8**	**4**	**SPI**	**EEPROM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.0125**	**±0.1**	**1000**	**-40 to +125**	**VQFN-2**
MCP48FEB14	**10**	**4**	**SPI**	**EEPROM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.05**	**±0.4**	**1000**	**-40 to +125**	**VQFN-2**
MCP48FEB24	**12**	**4**	**SPI**	**EEPROM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.2**	**±1.5**	**1000**	**-40 to +125**	**VQFN-2**
MCP48FEB08	**8**	**8**	**SPI**	**EEPROM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.0125**	**±0.1**	**1800**	**-40 to +125**	**VQFN-2**
MCP48FEB18	**10**	**8**	**SPI**	**EEPROM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.05**	**±0.4**	**1800**	**-40 to +125**	**VQFN-2**
MCP48FEB28	**12**	**8**	**SPI**	**EEPROM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.2**	**±1.5**	**1800**	**-40 to +125**	**VQFN-2**
MCP48FVB04	**8**	**4**	**SPI**	**RAM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.0125**	**±0.1**	**1000**	**-40 to +125**	**VQFN-2**
MCP48FVB14	**10**	**4**	**SPI**	**RAM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.05**	**±0.4**	**1000**	**-40 to +125**	**VQFN-2**
MCP48FVB24	**12**	**4**	**SPI**	**RAM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.2**	**±1.5**	**1000**	**-40 to +125**	**VQFN-2**
MCP48FVB08	**8**	**8**	**SPI**	**RAM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.0125**	**±0.1**	**1800**	**-40 to +125**	**VQFN-2**
MCP48FVB18	**10**	**8**	**SPI**	**RAM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.05**	**±0.4**	**1800**	**-40 to +125**	**VQFN-2**
MCP48FVB28	**12**	**8**	**SPI**	**RAM**	**V_{DD}, V_{REF}, V_{BG}**	**7.8**	**±0.2**	**±1.5**	**1800**	**-40 to +125**	**VQFN-2**
MCP47FEB01	8	1	I²C	EEPROM	V_{DD}, V_{REF}, V_{BG}	6	0.25	0.5	180	–40 to +125	8-pin MS
MCP47FEB11	10	1	I²C	EEPROM	V_{DD}, V_{REF}, V_{BG}	6	0.5	1.5	180	–40 to +125	8-pin MS
MCP47FEB21	12	1	I²C	EEPROM	V_{DD}, V_{REF}, V_{BG}	6	1	6	180	–40 to +125	8-pin MS
MCP47FEB02	8	2	I²C	EEPROM	V_{DD}, V_{REF}, V_{BG}	6	0.25	0.5	380	–40 to +125	8-pin MS
MCP47FEB12	10	2	I²C	EEPROM	V_{DD}, V_{REF}, V_{BG}	6	0.5	1.5	380	–40 to +125	8-pin MS
MCP47FEB22	12	2	I²C	EEPROM	V_{DD}, V_{REF}, V_{BG}	6	1	6	380	–40 to +125	8-pin MS
MCP47FVB01	8	1	I²C	Volatile	V_{DD}, V_{REF}, V_{BG}	6	0.25	0.5	180	–40 to +125	8-pin MS
MCP47FVB11	10	1	I²C	Volatile	V_{DD}, V_{REF}, V_{BG}	6	0.5	1.5	180	–40 to +125	8-pin MS
MCP47FVB21	12	1	I²C	Volatile	V_{DD}, V_{REF}, V_{BG}	6	1	6	180	–40 to +125	8-pin MS
MCP47FVB02	8	2	I²C	Volatile	V_{DD}, V_{REF}, V_{BG}	6	0.25	0.5	380	–40 to +125	8-pin MS
MCP47FVB12	10	2	I²C	Volatile	V_{DD}, V_{REF}, V_{BG}	6	0.25	1.5	380	–40 to +125	8-pin MS
MCP47FVB22	12	2	I²C	Volatile	V_{DD}, V_{REF}, V_{BG}	6	1	6	380	–40 to +125	8-pin MS
MCP47DA1	6	1	I²C	Volatile	V_{REF}	6	0.35	0.7	160	–40 to +125	6-pin SC
MCP4706	8	1	I²C	EEPROM	V_{DD}, V_{REF}	6	0.05	0.907	400	–40 to +125	6-pin SC
MCP4716	10	1	I²C	EEPROM	V_{DD}, V_{REF}	6	0.188	3.625	400	–40 to +125	6-pin SC
MCP4726	12	1	I²C	EEPROM	V_{DD}, V_{REF}	6	0.75	14.5	400	–40 to +125	6-pin SC
MCP4725	12	1	I²C	EEPROM	V_{DD}	6	0.75	14.5	400	–40 to +125	6-pin SC
MCP4728	12	4	I²C	EEPROM	V_{DD}, V_{BG}	6	0.75	13	1400	–40 to +125	10-pin M
MCP4801	8	1	SPI	Volatile	V_{BG}	4.5	0.5	1	400	–40 to +125	8-pin MS
MCP4811	10	1	SPI	Volatile	V_{BG}	4.5	0.5	3.5	400	–40 to +125	8-pin MS

MIXED SIGNAL: D/A Converters

Part #	Resolution (Bits)	DAC Channels	Interface	Memory	Voltage Reference	Output Setting Time (µs)	DNL (LSB)	INL (LSB)	Max Operating Current (µA)	Temperature Range (°C)	
MCP4821	12	1	SPI	Volatile	V_{BG}	4.5	0.75	12	400	–40 to +125	8-pin MS
MCP4802	8	2	SPI	Volatile	V_{BG}	4.5	0.5	1	400	–40 to +125	8-pin MS
MCP4812	10	2	SPI	Volatile	V_{BG}	4.5	0.5	3.5	400	–40 to +125	8-pin MS
MCP4822	12	2	SPI	Volatile	V_{BG}	4.5	0.75	12	400	–40 to +125	8-pin MS
MCP4901	8	1	SPI	Volatile	V_{BG}	4.5	0.5	1	350	–40 to +125	8-pin MS
MCP4911	10	1	SPI	Volatile	V_{BG}	4.5	0.5	3.5	350	–40 to +125	8-pin MS
MCP4921	12	1	SPI	Volatile	V_{BG}	4.5	0.75	12	350	–40 to +125	8-pin MS
MCP4902	8	2	SPI	Volatile	V_{BG}	4.5	0.5	1	350	–40 to +125	8-pin MS
MCP4912	10	2	SPI	Volatile	V_{BG}	4.5	0.5	3.5	350	–40 to +125	8-pin MS
MCP4922	12	2	SPI	Volatile	V_{BG}	4.5	0.75	12	350	–40 to +125	8-pin MS

INTERFACE AND NETWORKING

INTERFACE AND NETWORKING: CAN Products

Part #	Description and Features	Operating Voltage (V)	Temperature Range (°C)	Tx Buffers	Rx Buffers	Filters	Masks	Inte Ou
ATA6560	CAN Transceiver with stand-by and silent mode, 5V I/O, CAN FD ready, 5 Mbps, AECQ100 Grade 1	4.5 to 5.5	–40 to +125	N/A	N/A	N/A	N/A	N
ATA6561	CAN Transceiver with stand-by mode, compatible with 3.3V and 5V microcontroller, CAN FD ready, 5 Mbps, AECQ100 Grade 1	4.5 to 5.5	–40 to +125	N/A	N/A	N/A	N/A	N
ATA6562	CAN Transceiver with stand-by and silent mode, 5V I/O, wake up pattern, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N
ATA6563	CAN Transceiver with stand-by mode, compatible with 3.3V and 5V microcontroller, wake up pattern, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N
ATA6564	CAN Transceiver with silent mode, compatible with 3.3V and 5V microcontroller, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N
ATA6565	Dual CAN Transceiver with stand-by mode, 5V I/O, wake up pattern, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N
ATA6566	CAN Transceiver with stand-by mode, compatible with 3.3V and 5V microcontroller, CAN FD ready, 2 Mbps, AECQ100 Grade 0, 1, suitable for the Japanese market	4.5 to 5.5	–40 to +125/+150	N/A	N/A	N/A	N/A	N
ATA6570	**CAN Partial Networking Transceiver with Wake pin and Window Watchdog, compatible with 3.3V and 5V microcontroller, wake up frame, CAN FD ready, 5 Mbps, AECQ100 Grade 0, 1**	**4.55 to 28**	**–40 to +125/+150**	**N/A**	**N/A**	**N/A**	**N/A**	**N**
MCP2518FD	External CAN FD Controller with SPI Interface, ISO 11898-1:2015 Compliant, 32-bit Time Stamp, Supports CAN 2.0B and CAN FD, Highly Configurable 31 FIFOs and 32 Filters	2.7 to 5.5	–40 to +150	Up to 32	Up to 32	32	32	1 t
MCP25625	Integrated High-Speed CAN Transceiver and CAN 2.0B Controller	2.7 to 5.5	–40 to +125	3	2	6	2	

INTERFACE AND NETWORKING: LIN Products

Part #	Description	V_{REG} Output Voltage (V)	Operating Temp. Range (°C)	V_{REG} Output Current (mA)	Supply Voltage Range (V)	Max Baud Rate	LIN Sp
ATA663211	LIN Transceiver	–	–40 to +125	–	5 to 28	20 kbaud	2.0, 2.1
ATA6625	LIN Transceiver with integrated V_{REG}	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663201	LDO, pin compatible with ATA663231 LIN SBC	3.3	–40 to +125	85	5 to 28	–	–
ATA663203	LDO, pin compatible with ATA663254 LIN SBC	5.0	–40 to +125	85	5 to 28	–	–
ATA663231	LIN Transceiver with integrated V_{REG}	3.3	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663232	LIN Transceiver with integrated V_{REG} and Wake Pin	3.3	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663254	LIN Transceiver with integrated V_{REG}	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663255	LIN Transceiver with integrated V_{REG} and Wake Pin	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1

INTERFACE AND NETWORKING: LIN Products

Part #	Description	V_{REG} Output Voltage (V)	Operating Temp. Range (°C)	V_{REG} Output Current (mA)	Supply Voltage Range (V)	Max Baud Rate	LIN Sp
ATA663331	LIN Transceiver with integrated V_{REG} and 2 relay driver	3.3	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663354	LIN Transceiver with integrated V_{REG} and 2 relay driver	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663431	LIN Transceiver with integrated V_{REG}, WWDT	3.3	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATA663454	LIN Transceiver with integrated V_{REG}, WWDT	5.0	–40 to +125	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA1G16A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 64K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA1G15A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 32K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA1G14A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 16K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA0G16A-MZT-B	LIN SiP with V_{REG}, LIN TRX and uC, 64K Flash memory	3.3	–40 to +105	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA0G15A-MZT-B	LIN SiP with V_{REG}, LIN TRX and uC, 32K Flash memory	3.3	–40 to +105	85	5 to 28	20 kbaud	2.0, 2.1,
ATSAMHA0G14A-MZT-B	LIN SiP with V_{REG}, LIN TRX and uC, 16K Flash memory	3.3	–40 to +105	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA1E16A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 64K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA1E15A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 32K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA1E14A-MBT-B	LIN SiP with V_{REG}, LIN TRX and uC, 16K Flash memory	3.3	–40 to +85	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA0E16A-MZT-B	LIN SiP with V_{REG}, LIN TRX and uC, 64K Flash memory	3.3	–40 to +105	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA0E15A-MZT-B	LIN SiP with V_{REG}, LIN TRX and uC, 32K Flash memory	3.3	–40 to +105	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA0E14A-MZT-B	LIN SiP with V_{REG}, LIN TRX and uC, 16K Flash memory	3.3	–40 to +105	85	5 to 28	20 kbaud	2.0, 2.1
ATSAMHA1E14A-MBT-B510	**LIN SiP with V_{REG}, LIN TRX and uC, 16K Flash memory, ISELED license**	**3.3**	**-40 to +85**	**85**	**5 to 28**	**20 kbaud**	**2.0, 2.1**
ATSAMHA1E15A-MBT-B510	**LIN SiP with V_{REG}, LIN TRX and uC, 32K Flash memory, ISELED license**	**3.3**	**-40 to +85**	**85**	**5 to 28**	**20 kbaud**	**2.0, 2.1**
ATSAMHA1E16A-MBT-B510	**LIN SiP with V_{REG}, LIN TRX and uC, 64K Flash memory, ISELED license**	**3.3**	**-40 to +85**	**85**	**5 to 28**	**20 kbaud**	**2.0, 2.1**

INTERFACE AND NETWORKING: Line Circuits

Part Number	Line Circuit Type	Application	Series	Loop Length	Battery Topology	Soc Interface
LE57D111	Acccess Networks	Access Network SLIC	VE580	Long	External	
LE57D121	Acccess Networks	Access Network SLIC	VE580	Long	External	
LE57D122	Acccess Networks	Access Network SLIC	VE580	Long	External	
LE58QL02	Acccess Networks	Access Networks Quad SLAC	VE580	Long		PCM/MPI
LE58QL021	Acccess Networks	Access Networks Quad SLAC	VE580	Long		PCM/MPI
LE58QL022	Acccess Networks	Access Networks Quad SLAC	VE580	Long		PCM/MPI
LE58QL031	Acccess Networks	Access Networks Quad SLAC	VE580	Long		PCM/MPI
LE58QL061	Acccess Networks	Access Networks Quad SLAC	VE580	Long		PCM/MPI, GCI
LE58QL063	Acccess Networks	Access Networks Quad SLAC	VE580	Long		PCM/MPI, GCI
LE79112	Acccess Networks	Access Networks Voice Control Processor	VE790	Long		PCM/MPI
LE79114	Acccess Networks	Access Networks Voice Control Processor	VE790	Long		PCM/SPI
LE79124	Acccess Networks	NGCC Voice Control Processor	VE792	Long		PCM/SPI/GPI

INTERFACE AND NETWORKING: Line Circuits

Part Number	Line Circuit Type	Application	Series	Loop Length	Battery Topology	Soc Interface
LE79128	Acccess Networks	NGCC Voice Control Processor	VE792	Long		PCM/SPI/GPI
LE79234	Acccess Networks	NGCC Voice Control Processor	VE792	Long		PCM/SPI
LE792388	Acccess Networks	NGCC Octal SLAC	VE792	Long	Fixed	PCM/MPI
LE79252	Acccess Networks	Access Network SLIC	VE790	Long	External	
LE79271	Acccess Networks	NGCC SLIC	VE792	Long	External	
LE79272	Acccess Networks	NGCC SLIC	VE792	Long	External	
LE79Q2281	Acccess Networks	Access Networks Quad SLAC	VE790	Long		PCM/MPI, GCI
LE79Q2284	Acccess Networks	Access Networks Quad SLAC	VE790	Long		PCM/MPI, GCI
LE79R70	Acccess Networks	PBX	VE580	Short	External	
LE79R79	Acccess Networks	PBX	VE580	Short	External	
LE88010	Broadband Gateway	Broadband Gateway FXO CODEC	VE880	Short		PCM/SPI
LE88131	Broadband Gateway	Broadband Gateway FXS	VE880	Short	Tracking	PCM/SPI
LE88221	Broadband Gateway	Broadband Gateway FXS	VE880	Short	Shared	PCM/SPI
LE88231	Broadband Gateway	Broadband Gateway FXS	VE880	Short	Tracking	PCM/SPI
LE88241	Broadband Gateway	Broadband Gateway FXS	VE880	Short	Shared	PCM/SPI
LE88266	Broadband Gateway	Broadband Gateway FXS	VE880	Short	Shared	PCM/SPI
LE88276	Broadband Gateway	Broadband Gateway FXS	VE880	Short	Tracking	PCM/SPI
LE88286	Broadband Gateway	Broadband Gateway FXS	VE880	Short	Shared	PCM/SPI
LE88506	Broadband Gateway	Broadband Gateway SLAC	VE880	Short		PCM/SPI
LE88830	Broadband Gateway	Broadband Gateway SLIC	VE880	Short	Tracking	
LE89156	Broadband Gateway	Broadband Gateway FXS	VE890	Short	Tracking	PCM/SPI
LE89810	Broadband Gateway	Broadband Gateway SLIC	VE890	Short	Tracking	
LE9530	Broadband Gateway	Broadband Gateway SLIC	VE950	Short	Tracking	Parallel
LE9540	Broadband Gateway	Broadband Gateway SLIC	VE950	Short	Tracking	Serial
LE9541	Broadband Gateway	Broadband Gateway SLIC	VE950	Short	Tracking	Serial
LE9551	Broadband Gateway	Broadband Gateway SLIC	VE950	Short	Tracking	Serial
LE9622	Broadband Gateway	Broadband Gateway FXS	miSLIC	Short	Shared	PCM/SPI
LE9632	Broadband Gateway	Broadband Gateway FXS	miSLIC	Short	Tracking	PCM/SPI
LE9641	Broadband Gateway	Broadband Gateway FXS	miSLIC	Short	Tracking	PCM/SPI, ZSI
LE9642	Broadband Gateway	Broadband Gateway FXS	miSLIC	Short	Shared	ZSI
LE9643	Broadband Gateway	Broadband Gateway FXS	miSLIC	Short	Tracking	PCM/SPI, ZSI
LE9651	Broadband Gateway	Broadband Gateway FXS	miSLIC	Short	Tracking	PCM/SPI, ZSI
LE9652	Broadband Gateway	Broadband Gateway FXS	miSLIC	Short	Tracking	ZSI
LE9653	Broadband Gateway	Broadband Gateway FXS	miSLIC	Short	Tracking	PCM/SPI, ZSI
LE9662	Broadband Gateway	Broadband Gateway FXS	miSLIC	Short	Shared	ZSI
LE9672	Broadband Gateway	Broadband Gateway FXS	miSLIC	Short	Tracking	ZSI
ZL79124	Acccess Networks	NGCC Voice Control Processor	VE792	Long		PCM/SPI/GPI
ZL792388	Acccess Networks	NGCC Octal SLAC	VE792	Long	Fixed	PCM/MPI
ZL792588	Acccess Networks	NGCC Octal SLAC	VE792	Long		PCM/MPI
ZL88601	Broadband Gateway	Broadband Gateway FXS	ZL880	Short	Shared	PCM/SPI
ZL88602	Broadband Gateway	Broadband Gateway FXS	ZL880	Short	Shared	PCM/SPI
ZL88701	Broadband Gateway	Broadband Gateway FXS	ZL880	Short	Tracking	PCM/SPI
ZL88702	Broadband Gateway	Broadband Gateway FXS	ZL880	Short	Tracking	PCM/SPI

INTERFACE AND NETWORKING: Line Circuits

Part Number	Line Circuit Type	Application	Series	Loop Length	Battery Topology	Soc Interface
ZL88801	Broadband Gateway	Broadband Gateway FXS	ZL880	Short	Shared	PCM/SPI

INTERFACE and Networking: Line Drivers

Part Number	Application	Series	Loop Length	Signal Power (dBm)	Number of
LE87100	PLC, G.HN, HPAV 2.0	PLC	Short	15.5	1
LE87251	ADSL2+, HDSL	DSL CO	Long	20.5	2
LE87270	VDSL2 35b	DSL CPE	Medium/Long	14.5	1
LE87271	VDSL2 35b	DSL CPE	Medium/Long	14.5	1
LE87281	G.Fast 106MHz	G.fast	Short	8	1
LE87282	G.Fast 106MHz	G.fast	Short	8	2
LE87285	G.Fast 106 MHz/VDSL2	G.fast	Short/Medium	8 or 13	1
LE87286	G.Fast 212MHz	G.fast	Short	8	1
LE87290	VDSL2 35b	DSL CO	Medium	20	2
LE87401	PLC, G.HN, HPAV 2.0	PLC	Short	20	1
LE87402	PLC, G.HN, HPAV 2.0	PLC	Short	20	2
LE87501	PLC, G.HN, HPAV 2.0	PLC	Short	20	1
LE87511	PLC, G.HN, HPAV 2.0	PLC	Short	16	1
LE87536	ADSL2+, HDSL	DSL CO	Long	20	2
LE87557	VDSL2 35b	DSL CPE	Medium	14.5	1
LE87611	PLC, G.HN, HPAV 2.0	PLC	Short	8	1
LE87612	PLC, G.HN, HPAV 2.0	PLC	Short	8	2

INTERFACE AND NETWORKING: Ethernet products

Part Number	Bandwidth	Interface (Upstream)	Wake-On-LAN	EEE	Temperature*	
Ethernet Controllers						
ENC28J60	10	SPI	–	–	I	28-pin SP
ENC624J600	10/100	SPI/Parallel	–	–	I	24-pin TQ
LAN9217	10/100	16-bit Host Bus/MII	–	–	–	100-pin T
LAN9218	10/100	32-bit Host Bus	–	–	I	100-pin T
LAN9220/1	10/100	16-bit Host Bus	–	–	I	56-pin QF
LAN9250	10/100	SPI, SQI™, HBI	✓	✓	I	64-pin QF
LAN9420	10/100	32-bit PCI 3.0	–	–	I	128-pin V
LAN89218	10/100	32-bit Host Bus	–	–	A, I	100-pin T
KSZ8851	10/100	8-/16-/32-bit or SPI	✓	–	A, I	32-pin QF
KSZ8852	10/100	8-/16-/32-bit	✓	✓	I	64-pin LQ
KSZ8441	10/100	8-/16-/32-bit or SPI	✓	✓	I	64-pin LQ
Ethernet Bridges						
LAN9500A	10/100	USB 2.0	✓	–	I	56-pin QF
LAN9730	10/100	USB 2.0 (HSIC)/MII	–	–	I	56-pin QF
LAN9512/13/14	10/100	USB 2.0	–	–	I	64-pin QF
LAN89530	10/100	USB 2.0	✓	–	A, I	56-pin QF
LAN89730	10/100	HSIC	✓	–	I	56-pin QF
LAN7430	Gigabit	PCIe 3.1	✓	✓	I	48-pin VQ
LAN7431	Gigabit	PCIe 3.1 RGMII	–	✓	A	72-pin VQ
LAN7500	Gigabit	USB 2.0	✓	–	I	56-pin QF
LAN7800/01/50	Gigabit	USB 3.1/USB 2.0/HSIC	✓	✓	A, I	48-pin SQ
Ethernet Transceivers (PHYs)						
KSZ9031	Gigabit	MII/RMII/RGMII	✓	–	A, I	48-/64-pi
LAN8810	Gigabit	GMII	–	–	I	72-pin QF
LAN8820	Gigabit	RGMII	–	–	I	56-pin QF
KSZ8061	10/100	MII/RMII	✓	✓	A, I	32-/48-pi
KSZ8081	10/100	MII/RMII	–	–	I	24-/32-pi
KSZ8091	10/100	MII/RMII	✓	✓	I	24-/32-pi
KSZ8051	10/100	MII/RMII	–	–	A, I	32-pin QF
LAN8710A	10/100	MII/RMII	–	–	I	32-pin QF
LAN8720A	10/100	RMII	–	–	I	24-pin QF
LAN8740A	10/100	MII/RMII	✓	✓	I	32-pin QF
LAN8741A	10/100	MII/RMII	–	✓	I	32-pin QF
LAN8742A	10/100	RMII	✓	–	I	24-pin QF
LAN88730	10/100	MII/RMII	–	–	A, I	32-pin QF

INTERFACE AND NETWORKING: Ethernet products

Part #	Bandwidth	Ports	Interface (Upstream)	1588–v2	Cable Diags	100 Fx	Temperat
EtherCAT® Controllers							
LAN9252	10/100	2/3	SPI, SQI™, 8-/16-/32-bit host bus	Clock Sync.	✓	✓	I

INTERFACE AND NETWORKING: Ethernet products

Part #	Bandwidth	Ports	Interface (Upstream)	1588–v2	Cable Diags	100 Fx	Temperatu
Ethernet Switches							
LAN9352	10/100	2	SPI/SQI/HBI	✓	✓	–	I
LAN9303	10/100	3	MII/RMII/Turbo MII	–	–	✓	I
LAN89303	10/100	3	MII/RMII/Turbo MII	–	–	✓	A, I
LAN9353	10/100	3	MII/RMII/Turbo MII	✓	✓	✓	I
LAN9354	10/100	3	RMII	✓	✓	✓	I
LAN9355	10/100	3	MII/RMII/Turbo MII	✓	✓	✓	I
KSZ8863	10/100	3	MII/RMII	–	✓	✓	I
KSZ8873	10/100	3	MII/RMII	–	✓	✓	A, I
KSZ8463	10/100	3	MII/RMII	✓	✓	✓	I
KSZ8864	10/100	4	MII/RMII	–	✓	–	A, I
KSZ8794	10/100	4	MII/GMII/RGMII	–	✓	–	I
KSZ8795	10/100	5	GMII/RGMII/MII/RMII	–	✓	–	I
KSZ8775	10/100	5	MII/GMII/RGMII	–	✓	–	I
KSZ8765	10/100	5	MII/GMII/RGMII	–	✓	✓	I
KSZ8895	10/100	5	MII/RMII	–	✓	–	I
KSZ8567	10/100	5, 7	SGMII/RGMII/MII/RMII	✓	LinkMD®+ with signal quality indicator	with SGMII	A, I
KSZ9563	10/100/1000	3	RGMII/MII/RMII	✓	✓	–	I
KSZ9893	10/100/1000	3	RGMII/MII/RMII	–	✓	–	I
KSZ8563	10/100	3	RGMII/MII/RMII	✓	✓	–	I
KSZ9897	10/100/1000	6, 7	SGMII/RGMII/MII/RMII	–	✓	with SGMII	I
KSZ9567	10/100/1000	7	SGMII/RGMII/MII/RMII	✓	LinkMD+ with signal quality indicator	with SGMII	I
KSZ9477	10/100/1000	7	SGMII/RGMII/MII/RMII	1588 + HSR/ DLR	LinkMD+ with signal quality indicator	with SGMII	I

Note: All products above are supported with 3.3V operating voltage *A = Automotive temperature range, (–40˚ to +105˚C) I = Industrial temperature range (–40˚ to +85˚C)

INTERFACE AND NETWORKING: Serial Peripherals

Part #	Description	Operating Voltage (V)	Operating Temp. Range (°C)	Bus Type	Max Bus Frequency (kHz)	Features	
MCP23008	8-bit I/O Port Expander	1.8 to 5.5	–40 to +85	I²C	1700	Three HW address pins, HW interrupt, 25 mA source/sink capability per I/O	18-pin PDIP
MCP23S08	8-bit I/O Port Expander	1.8 to 5.5	–40 to +85	SPI	10000	Two HW address pins, HW interrupt, 25 mA source/sink capability per I/O	18-pin PDIP
MCP23009	8-bit I/O Port Expander	1.8 to 5.5	–40 to +125	I²C	3400	One HW address pin, HW interrupt, 25 mA source/sink per I/O, 100 kHz, 400 kHz and 3.4 MHz I²C supported	18-pin PDIP
MCP23S09	8-bit I/O Port Expander	1.8 to 5.5	–40 to +125	SPI	10000	HW interrupt, 25 mA source/sink per I/O	18-pin PDIP
MCP23016	16-bit I/O Port Expander	2.0 to 5.5	–40 to +85	I²C	400	Three HW address inputs, HW interrupt, 25 mA source/sink capability per I/O	28-pin PDIP
MCP23017	16-bit I/O Expander	1.8 to 5.5	–40 to +125	I²C	1700	Three HW address pins, 25 mA sink/source per I/O, 100 kHz, 400 kHz and 3-4 MHz I²C supported, Interrupt output	28-pin PDIP
MCP23S17	16-bit I/O Expander	1.8 to 5.5	–40 to +125	SPI	10000	Three HW address pins, 25 mA sink/source per I/O, Interrupt output	28-pin PDIP
MCP23018	16-bit I/O Port Expander	1.8 to 5.5	–40 to +125	I²C	3400	One HW address pin, 2 HW interrupts, 25 mA source/sink per I/O, 100 kHz, 400 kHz and 3.4 MHz I²C supported	24-pin SSO
MCP23S18	16-bit I/O Port Expander	1.8 to 5.5	–40 to +125	SPI	10000	Two HW interrupts, 25 mA source/sink per I/O	28-pin SOIC

INTERFACE AND NETWORKING: Wi-Fi® Modules

Part #	Radio	Pin Count	Antenna	Frequency Range (GHz)	Sensitivity (dBm)	Power Output (dBm)	Power Consumption (mA)		Sleep	MAC Features	Protocols	E
							Tx	Rx				
MRF24WG0MA	802.11 b/g	36	PCB	2.412–2.484	–95	+18	240	156	0.1 mA[1]	802.11b/g, Wi-Fi Direct, SoftAP, WPS	Wi-Fi Connection Manager, Announce, DNS, DDNS, DHCP, FTP, HTTP, NBNS, SNMP, SNTP, SSL, TCP, UDP, ZeroConf[2]	WPA PSK ENT
WINC1500-MR210PB	802.11 b/g/n	28	PCB, U.FL	2.412–2.472	–94	+18.5	250	57	380 µA	802.11b/g/n, SoftAP, Wi-Fi Direct	TCP, UDP, DHCP, ARP, HTTP, SSL, DNS	WEP Secu

INTERFACE AND NETWORKING: Wi-Fi® Modules

Part #	Radio	Pin Count	Antenna	Frequency Range (GHz)	Sensitivity (dBm)	Power Output (dBm)	Power Consumption (mA)		Sleep	MAC Features	Protocols	E
							Tx	Rx				
SAMW25	802.11 b/g/n	51	–	2.412–2.472	–94	+17	250	57	380 µA	802.11b/g/n, SoftAP, Wi-Fi Direct, station mode	DHCP, DNS, TCP/IP (IPv4), UDP, HTTP, HTTPS	WEP Pers

Note 1: Indicates "off" current **Note 2:** Supported in the provided stack

INTERFACE AND NETWORKING: High-Linearity 2.4-GHz Amplifiers

Part Number	Freq (GHz)	802.11 Standard	Description	Gain (dB)	Linear Po (dBm)	EVM (%)	Vcc (V)	Curr
LX5511	2.3–2.5	n	PA + PDET	26.0	20	3.0	3.3	
LX5535	2.4–2.5	n	PA + PDET	32.0	24.5	3.0	3.3–5	
LX5518	2.4–2.5	n	PA + PDET	30.0	26	3.0	3.3–5	
LX5602	2.4–2.5	n	PA, Filtering, PDET	30.0	26	3.0	5	
LX5533	2.4–2.5	ac	PA, Filtering, PDET	30.0	24	1.8	5	

INTERFACE AND NETWORKING: High-Linearity 5-GHz Amplifiers

LX5530	4.9–5.9	n	PA + PDET	28.0	22	3.0	3.3–5	
LX5531	5.15–5.85	n	PA, Filtering, PDET	33.0	25	3.0	5	
		ac			23	1.8	5	

INTERFACE AND NETWORKING: Low-Noise Amplifiers

Part Number	Freq (GHz)	802.11 Standard	Description	Gain (dB)	Noise Figure (dB)	IIP3 (dBm)	Current @ Po (mA)	
LX5561	2.4–2.5	b/g/n/ac	LNA	13	1.5	6.5	10.5	
LX5560	4.9–6.0	a/n/ac	LNA	12	1.7	6	9.5	
LX5563	2.4–2.5	b/g/n/ac	LNA + Bypass	14	1.3	7.5	9	
LX5575	5.15–5.85	a/n/ac	LNA + Bypass	12	1.7	12	9	

INTERFACE AND NETWORKING: Dual-Band Front-End Modules

Part Number	Freq (GHz)	802.11 Standard	Description	Gain (dB)	Linear Po (dBm)	EVM (%)	Vcc (V)
LX5591	2.4–2.5	n	Dual-Band PA + PDET + LNA with Bypass + SPDT	30	18	3.0	3.3
		ac			16	1.8	
	5.15–5.85	n		27	18	3.0	3.3
		ac			16	1.8	

INTERFACE AND NETWORKING: Single-Band, High-Linearity Front-End Modules

Part Number	Freq (GHz)	802.11 Standard	Description	Gain (dB)	Linear Po (dBm)	EVM (%)	Vcc (V)	Curre
LX5551	2.4–2.5	n	PA + SPDT + PDET	27	18	3.0	3.3	
LX5584A	2.4–2.5	n	PA + Log DET + LNA with bypass + SP3T	30	19	3.0	3.3	
		ac			18	1.8	3.3	
LX5584B	2.4–2.5	n	PA + Log DET + LNA with Bypass + SP3T	33	21	3.0	5.0	
		ac			20	1.8	5.0	
LX5584H	2.4–2.5	n	PA + Log DET + LNA with Bypass + SP3T	33	21	3.0	5.0	
		ac			20	1.8	5.0	
LX5586	5.15–5.85	n	PA + PDET + LNA with Bypass + SPDT	27	17.0	3.0	3.3	
		ac			16.0	1.8	3.3	
LX5586A	5.15–5.85	n	PA + PDET + LNA with Bypass + SPDT	27	17.5	3.0	3.3	
		ac			16.5	1.8	3.3	
LX5586H	5.15–5.85	n	PA + PDET + LNA with Bypass + SPDT	27	20	3.0	5.0	
		ac			19	1.8	5.0	
LX5589A	5.15–5.85	n	PA + Log DET + LNA with Bypass + SPDT	30	18	3.0	3.3	
		ac			17	1.8	3.3	
LX5589H	5.15–5.85	n	PA + Log DET + LNA with Bypass + SPDT	32	22	3.0	5.0	
		ac			20	1.8	5.0	
LX5589B	5.15–5.85	n	PA + Log DET + LNA with Bypass + SPDT	32	22	3.0	5.0	
		ac			20	1.8	5.0	

INTERFACE AND NETWORKING: Bluetooth® Modules

Part #	Bluetooth Spec	Module Type	No Shield Option	Rx Sensitivity (dBm)	Power Output (dBm) (typ.)	Sleep	Profiles	Interface
BM62	5.0	Stereo Audio	Yes	–90	2	–	HFP, HSP, A2DP, AVRCP, SPP	UART
BM63	5.0	Stereo Audio	No	–89	2	–	HFP, HSP, A2DP, AVRCP, SPP	UART
BM64	5.0	Stereo Audio	Yes	–90	15	–	HFP, HSP, A2DP, AVRCP, SPP	UART, I²C
BM20	5.0	Audio	Yes	–91	4	System Off 2 µA	HFP, HSP, A2DP, AVRCP, SPP, PCAP	Analog audio out, mic in, I in, UART
BM23	5.0	Audio	Yes	–91	4	System Off 2 µA	HFP, HSP, A2DP, AVRCP, SPP, PCAP	I²S Digital audio out, mic in, in, UART
RN4870	5.0	BLE	Yes	–90	0	–	L2CAP, ATT, GATT, GAP, Integrated Public Profiles	UART, i²C
RN4871	5.0	BLE	Yes	–90	0	–	L2CAP, ATT, GATT, GAP, Integrated public profiles	UART, I²C, SPI
RN4678	5.0	Data, Dual-Mode	Yes	–90 BR/EDR –92 LE	2	Deep Power Down 130 µA	BT3.0: GAP, SPP, SPD, RFCOMM, L2CAP BT4.2: GAP, GATT, ATT, SMP, L2CAP	UART, I²C
BM70	5.0	Data, Single-Mode BLE	Yes	–90	0	Power saving 1 µA	GAP, GATT, SM, L2CAP, Integrated public profiles	UART, I²C, SPI, ADC, PW GPIOs
BM71	5.0	Data, Single-Mode BLE	Yes	–90	0	Power saving 1 µA	GAP, GATT, SM, L2CAP, Integrated public profiles	UART, I²C, SPI, ADC, PW GPIOs
RN4020	4.1	Data, Single-Mode BLE	No	–92.5	7	Dormant < 700 nA, deep sleep < 5.0 µA	GAP, GATT, SM, L2CAP, integrated public profiles	UART, PIO, AIO, SPI
BM78	5.0	Data, Dual-Mode	Yes	–90 (BR/EDR) –92 LE	2	Deep Power Down 130 µA	BT3.0: GAP, SPP, SDP, RFCOMM, L2CAP BT4.2: GAP, GATT, ATT, SMP, L2CAP	UART, I²C, GPIOs

INTERFACE AND NETWORKING: IEEE 802.15.4 zigbee® RF Transceiver Products

Part #	Pin Count	Antenna	Frequency Range (GHz)	Sensitivity (dBm)	Power Output (dBm)	RSSI	Tx Power Consumption (mA)	Rx Power Consumption (mA)	Clock (MHz)	Sleep	MAC	MAC Features
MRF24J40	40	–	2.405 to 2.48	–95	0	Yes	23	19	20	2 µA	Yes	CSMA-C/
MRF24J40MA	12	PCB	2.405 to 2.48	–94	0	Yes	23	19	20	2 µA	Yes	CSMA-C/
MRF24J40MD	12	PCB	2.405 to 2.48	–104	+19	Yes	140	32	20	10 µA	Yes	CSMA-C/
MRF24J40ME	12	U.FL	2.405 to 2.48	–104	+19	Yes	140	32	20	10 µA	Yes	CSMA-C/

INTERFACE AND NETWORKING: Sub-GHz Transceivers/Modules

Part #	Pin Count	Frequency Range (MHz)	Sensitivity (dBm)	Power Output (dBm)	RSSI	Tx Power Consumption (mA)	Rx Power Consumption (mA)	Clock (MHz)
MRF89XA	32	868/915/950	–113	+12.5	Yes	25 mA @ +10 dBm	3	12.8 MHz
MRF89XAM8A	12	868	–113	+12.5	Yes	25 mA @ +10 dBm	3	12.8 MHz
MRF89XAM9A	12	915	–113	+12.5	Yes	25 mA @ +10 dBm	3	12.8 MHz

INTERFACE AND NETWORKING: Sub-GHz Transmitters

Part #	Pin Count	Frequency Range (MHz)	Modulation	Data Rate (Kbps)	Tx Power (dBm)	Operating V
MICRF114	6	285–445	OOK	115.2 (NRZ), 57.6 (Manchester Encoded)	10	1.8–3
MICRF113	6	300–450	ASK	20	10	1.8–3
MICRF112	10	300–450	ASK/FSK	50 (ASK), 10 (FSK)	10	1.8–3

INTERFACE AND NETWORKING: Sub-GHz Receivers

Part #	Pin Count	Frequency Range (MHz)	Modulation	Data Rate (Kbps)	Sensitivity (dBm)	RSSI	Rx Power Consumption (mA)	Slee
MICRF219A	16	300–450	ASK/OOK	20	–110	Yes	4.3	15 µ
MICRF220	16	300–450	ASK/OOK	20	–110	Yes	4.3	N/A
MICRF221	16	850–950	ASK/OOK	10	–109	Yes	9	15 µ
MICRF229	16	400–450	ASK/OOK	20	–112	Yes	6	15 µ
MICRF230	16	400–450	ASK/OOK	20	–112	Yes	6	N/A

INTERFACE AND NETWORKING: MCU Transmitters

Part #	Pin Count	Frequency Range (MHz)	Program Memory (Bytes)	EEPROM (bytes)	RAM (bytes)	Digital Timer	Watch Dog Timer	Max Speed (MHz)	ICSP	Modulation	Data Rate (kbps)	Output (dB
PIC12F529T39A	6	310–928	2.3K	64	201	1	1	8	Yes	OOK/FSK	100	10
PIC12LF1840T39A	6	310–928	7.1K	256	256	2	1	32	Yes	OOK/FSK	100	10
PIC16LF1824T39A	20	310–928	4K	256	256	1	1	32	Yes	OOK/FSK	100	10
rfPIC12F675F	6	380–450	1.7K	128	64	1	1	20	Yes	ASK/FSK	40	10
rfPIC12F675H	6	850–930	1.7K	128	64	1	1	20	Yes	ASK/FSK	40	10
rfPIC12F675K	6	290–350	1.7K	128	64	1	1	20	Yes	ASK/FSK	40	10

INTERFACE AND NETWORKING: USB Bridge Devices

Part #	USB Speed	USB Compliant	PHY	MCU Interface	Tx/Rx Buffer Size (bytes)	Number of GPIO	Operating Voltage (V)	
MCP2200	Full-Speed USB (12 Mb/s), Low-Speed USB (1.5 Mb/s)	Yes	Yes	UART	128/128	8	2.7 to 5.5	20-pi
MCP2210	Full-Speed USB (12 Mb/s), Low-Speed USB (1.5 Mb/s)	Yes	Yes	SPI	64	9	3.3 to 5.5	20-pi
MCP2221	Full-Speed USB (12 Mb/s), Low-Speed USB (1.5 Mb/s)	Yes	Yes	I²C	64	4	3.0 to 5.5	14-pi

INTERFACE AND NETWORKING: USB Products

Part #	Description	Processor Interface	# of Downstream Ports	Card Forma
USB Hub Controllers				
USB2412	Hi-Speed USB 2.0 2-Port Hub	USB 2.0	2	–
USB2422	Small-footprint, 2-Port Value Hub, Commercial and Industrial Temperature with USB Battery Charging 1.1	USB 2.0	2	–

INTERFACE AND NETWORKING: USB Products

Part #	Description	Processor Interface	# of Downstream Ports	Card Forma
USB251XB/ USB2517	Hi-Speed USB 2.0 Hub with Battery Charger Detection	USB 2.0	2, 3, 4, 7 port options	–
USB2524	4-Port Hi-Speed USB 2.0 Multi-Switch Hub	USB 2.0 × 2	4	–
USB3503	3-Port Hi-Speed USB 2.0 HSIC Hub for Mobile Applications	HSIC	3	–
USB3803	3-Port Hi-Speed USB 2.0 Hub for Mobile Applications	USB 2.0	3	–
USB3X13	3-Port Hi-Speed USB 2.0 Smart Hub for Mobile Applications	USB 2.0 or HSIC	3 (USB 2.0 ×2/HSIC ×1)	–
USB253X	Hi-Speed USB 2.0 Controller Hub with Battery Charger Detection	USB 2.0	2, 3, 4 port options	–
USB46X4	Hi-Speed USB 2.0 Controller Hub with USB and HSIC Interfaces	USB 2.0 or HSIC	4 (USB 2.0 ×4 or USB 2.0 ×2/HSIC ×2)	–
USB553XB	SuperSpeed USB 3.0 Hub with Battery Charger Detection	USB 3.0	2, 3, 4 or 7 port options	–
USB5734	SuperSpeed USB 3.1 Gen1 Smart Hub Controller with I/O Bridging and FlexConnect	USB 3.1 Gen1	4	–
USB5744	SuperSpeed USB 3.1 Gen1 Small Form Factor Hub Controller	USB 3.1 Gen1	4	–
USB-C™ Power and Charging				
UTC200X	USB-C Controller	I/O	1 DFP or 1 UFP	–
USB Transceivers/Switches				
USB333X	Mobile Hi-Speed USB 2.0 Transceiver with Multi-frequency Support	ULPI	–	–
USB334X	Hi-Speed USB 2.0 Transceiver with Multi-frequency Support	ULPI	–	–
USB3300	Hi-Speed USB 2.0 Transceiver (24 MHz reference clock support)	ULPI	–	–
USB3740B	Hi-Speed USB 2.0 Switch with Extremely Low Power	USB 2.0	–	–
USB375XA-X	Hi-Speed USB 2.0 Port Protection with Switch and Charger Detection	USB 2.0	–	–

INTERFACE AND NETWORKING: USB Products (Continued)

Part #	Description	Processor Interface	# of Downstream Ports	Card Formats	Industrial V
USB Flash Media Controllers					
USB224X	Hi-Speed USB 2.0 Multi-Format Flash Media Controller	USB 2.0	–	SD™/MMC/eMMC™/MS/xD	✓
USB225X	Hi-Speed USB 2.0 Multi-Format Flash Media Controller	USB 2.0	–	SD/MMC/eMMC/MS/xD/CF	✓
USB264X	Hi-Speed USB 2.0 Multi-Format Flash Media Hub Controller	USB 2.0	2	SD/MMC/eMMC/MS/xD	✓ (Autom
USB2660	Hi-Speed USB 2.0 Multi-Format Flash Media Hub Controller	USB 2.0	2	SD/MMC/eMMC/MS/xD (×2)	✓
USB4640	Hi-Speed USB 2.0 Multi-Format Flash Media HSIC Hub Controller	HSIC	2	SD/MMC/eMMC/MS/xD	✓
USB Security					
SEC1110	Smart Card Controller	USB 2.0	–	Smart Card	✓
SEC1210	Smart Card Controller with Multi-Interface Support	USB 2.0	–	Smart Card ×2	✓

INTERFACE AND NETWORKING: Real-Time Clock/Calendar (RTCC)

Bus	Part #	Pins	Timing Features				Memory[1]			Power		Unique Features[2]	5 ku Pricing†	
			Digital Trimming (Adj./Range)	Alarm Settings	WDT	Outputs	SRAM (Bytes)	EEPROM (Kbits)	Protected EEPROM (bits)	Min V_{CC}	Min I_{BAT}			
I²C	MCP7940M	8	±127 ppm	1 sec.	–	$\overline{IRQ}$/CLK	64	0	0	1.8	–	–	$0.46	SOIC (SN),
	MCP7940N	8	±127 ppm	1 sec.	–	$\overline{IRQ}$/CLK	64	0	0	1.8	1.3	Power Fail Timestamp	$0.59	SOIC (SN),
	MCP7940X	8	±127 ppm	1 sec.	–	$\overline{IRQ}$/CLK	64	0	64	1.8	1.3	Power Fail Timestamp	$0.66	SOIC (SN),
	MCP7941X	8	±127 ppm	1 sec.	–	$\overline{IRQ}$/CLK	64	1	64	1.8	1.3	Power Fail Timestamp	$0.72	SOIC (SN),
SPI	MCP7951X	10	±255 ppm	0.01 sec.	–	$\overline{IRQ}$/CLK	64	1	128	1.8	1.3	Power Fail Timestamp	$0.90	SOIC (SL),
	MCP7952X	10	±255 ppm	0.01 sec.	–	$\overline{IRQ}$/CLK	64	2	128	1.8	1.3	Power Fail Timestamp	$0.96	MSOP (MS)
	MCP795W1X	14	±255 ppm	0.01 sec.	✓	1. CLK, 2. $\overline{IRQ}$, 3. WDT RST	64	1	128	1.8	1.3	Power Fail Timestamp, Event Detects (× 2)	$1.22	SOIC (SL),
	MCP795W2X	14	±255 ppm	0.01 sec.	✓	1. CLK, 2. $\overline{IRQ}$, 3. WDT RST	64	2	128	1.8	1.3	Power Fail Timestamp, Event Detects (× 2)	$1.28	SOIC (SL),

Note 1: All part numbers with an "X" have three protected EEPROM programming options: [0 = Blank ID], [1 = EUI-48™ MAC Address], [2 =EUI-64™ MAC Address]
2: The Power Fail Timestamp in all RTCCs occur at Battery Switchover.

CO AND SMOKE DETECTOR ICS

CO AND SMOKE DETECTOR ICS: Photoelectric Smoke Detector ICs

Part #	Horn Driver Alarm Pattern	Alarm Memory	Low Battery Detection	Chamber Test	Alarm Interconnect	Sensitivity Timer	Internal POR	Alternate Diagnostic Mode	Tem
RE46C140	NFPA Temporal	No	Yes	Yes	Yes	Yes	Yes	–	
RE46C141	NFPA Temporal	No	Yes	Yes	Yes	–	Yes	–	
RE46C143	Continuous Tone	No	Yes	Yes	Yes	–	Yes	–	
RE46C144	Continuous Tone	No	Yes	Yes	Yes	Yes	Yes	–	
RE46C145	NFPA Temporal	No	Yes	Yes	Yes	Yes	Yes	Yes	
RE46C165	NFPA Temporal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
RE46C166	Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
RE46C167	NFPA Temporal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
RE46C168	Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
RE46C190	NFPA Temporal or Continuous Tone	Yes	Yes	Yes	Yes	Yes	Yes	–	
RE46C191	NFPA Temporal or Continous Tone	Yes	Yes	Yes	Yes	Yes	Yes	No	
RE46C194	NFPA Temporal or ContinuousTone	Yes	Yes	Yes	Yes	Yes	Yes	No	
RE46C200	NFPA Temporal or Continous Tone	Yes	Yes	Yes	Yes	Yes	Yes	No	

CO AND SMOKE DETECTOR ICS: Ionization Smoke Detector ICs

Part #	Horn Driver Alarm Pattern	Alarm Memory	Low Battery Detection	Reverse Battery Protection	Alarm Interconnect	Hush Timer	Power-up Low Battery Test	Operating Temp. Range (°C)
RE46C180	NFPA Temporal or Continuous Tone	Yes	Yes	No	Yes	Yes	Yes	–10 to +60
RE46C181	NFPA Temporal or Continuous Tone	Yes	Yes	No	Yes	Yes	Yes	–10 to +60

CO AND SMOKE DETECTOR ICS: Ionization Smoke Detector Front Ends

Part #	Microprocessor Compatible Output	Output Options	Typical Application	Operating Temperature Range (°C)
RE46C112	Yes	V_{OUT} 1/4 of V_{DD} or V_{OUT} 1/4 of Detect Input	3V or 3.3V Microprocessor	–10 to +60
RE46C114	Yes	V_{OUT} 1/2 of V_{DD} or V_{OUT} 1/2 of Detect Input	5V Microprocessor	–10 to +60
RE46C311	Yes	Op Amp	Ionization Smoke Detector Front End	–10 to +60
RE46C312	Yes	Op Amp	Ionization Smoke Detector Front End	–10 to +60

CO AND SMOKE DETECTOR ICS: CO Detectors

Part #	Operating Voltage (V_{DC})	Voltage Regulator (V_{DC})	LED Driver	Horn Driver	Interconnect	Low Battery Detection	Brown Out	Boost Regulator	Op Amp Vos Max (µV)	Op Amp Ib Max (pA)	Op Amp GBWP (kHz)	Op Amp Aol (dB)	Op Amp Slew Rate (V/µS)	Op Amp Unity Gain Stable
RE46C800	**2 to 12**	**3.3**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**1000**	**200**	**10**	**115**	**0.003**	**Yes**
RE46C803	**2 to 3.6**	**3.3/1.8**	**Yes**	**Yes**	**Yes**	**No**	**No**	**Yes**	**1000**	**200**	**10**	**115**	**0.003**	**Yes**

CO AND SMOKE DETECTOR ICS: Piezoelectric Horn Drivers

Part #	Operating Voltage (V)	LED Driver	Voltage Regulator (V)	Low Battery Detection	Interconnect	Power Good	Operating Temp.
RE46C100	6 to 16	–	–	–	–	–	–40 to +8
RE46C101	6 to 16	Yes	–	–	–	–	–40 to +8
RE46C104	4 to 8	–	–	–	–	–	0 to +50
RE46C105	6 to 12	Yes	3.3 or 5	Yes	–	–	–40 to +8
RE46C107	2 to 5	Yes	3 or 3.3	Yes	–	–	0 to +50
RE46C108	6 to 12	–	3.3 or 5	–	–	–	–40 to +8
RE46C109	6 to 12	–	3	Yes	Yes	Yes	–40 to +8
RE46C117	2 to 5	–	–	–	–	–	0 to +50
RE46C119	6 to 12	–	3	Yes	Yes	Yes	–40 to +8
RE46C317	2 to 5	–	–	–	–	–	–10 to +6
RE46C318	2 to 5	–	–	–	–	–	–10 to +6

ULTRASOUND

ULTRASOUND: High-Voltage Analog Multiplexers

Part #	# of Ch. and Configuration	Bleed Resistor	V_{PP}-V_{NN}	R_{ON} (Ω)	C_{SG} On/Off (pF)	I_{SW} (A)	Features
HV20220	8 SPST	No	200V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency
HV20320	8 SPST	No	200V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency
HV232	8 SPST	Yes	200V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency
HV219	8 SPST	No	200V	11	50/20	3	5V–12V Logic Input, 5 MHz clock frequency
HV2201	8 SPST	No	200V	22	38/12	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2301	8 SPST	Yes	200V	22	38/12	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2221	8 SPST	No	V_{PP} range = +15V to +50V, V_{NN} range = –190V to –225V	15	70/18	4	3.3V–5V Logic input, 20 MHz clock frequency
HV2321	8 SPST	Yes	V_{PP} range = +15V to +50V, V_{NN} range = –190V to –225V	15	70/18	4	3.3V–5V Logic input, 20 MHz clock frequency
HV209	6 × 2:1 Mux	Yes	200V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency
HV20822	2 Banks of 8 channel	No	220V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency
HV238	2 Banks of 8 channel	Yes	220V	22	38/12	3	5V–12V Logic Input, 5 MHz clock frequency
HV2601	16 SPST	No	200V	22	38/12	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2701	16 SPST	No	200V	22	38/12	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2605	16 SPST	No	200V	22	13/10	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2705	16 SPST	Yes	200V	22	13/10	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2631	2 Banks of 8 channel	No	220V	22	38/12	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2731	2 Banks of 8 channel	Yes	220V	22	38/12	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2803	32 SPST	No	±6V	10	27/9	3	3.3V Input Logic, 66 MHz Clock Frequency
HV2903	32 SPST	Yes-2	±6V	10	27/9	3	3.3V Input Logic, 66 MHz Clock Frequency
HV2904	32 SPST	Yes-1	±6V	10	27/9	3	3.3V Input Logic, 66 MHz Clock Frequency
HV2070	32 SPST	No	±6V	4.5	20/11	3.7	3.3V Input Logic, 66 MHz Clock Frequency
HV2733	8 SPDT	Yes	200V	22	38/12	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2661	8 × 3:1 Mux	No	200V	22	30/9	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2761	8 × 3:1 Mux	Yes	200V	22	30/9	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2662	24 SPST	No	200V	22	12/9	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2762	24 SPST	Yes	200V	22	12/9	2	3.3V–5V Logic input, 20 MHz clock frequency
HV2808	2 Banks of 16 SPDT	No	200V	22	23/9	3	3.3V–5V Logic, A/B bar Control pin
HV2809	2 Bank of 16	No	200V	22	23/9	3	3.3V -5V Logic, A/B bar + EN Control pins
HV2801	16 × 2:1 Mux	No	200V	22	23/9	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2901	16 × 2:1 Mux	Yes	200V	22	23/9	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2802	32 SPST	No	200V	22	13/10	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2902	32 SPST	Yes	200V	22	13/10	3	3.3V–5V Logic input, 20 MHz clock frequency
HV2621	16 SPST	No	300V	22	18/10	3	3.3V–5V logic input, 33 MHz clock frequency
HV2721	16 SPST	Yes-2	300V	22	18/10	3	3.3V–5V logic input, 33 MHz clock frequency
HV2722	16 SPST	Yes-1	300V	22	18/10	3	3.3V–5V logic input, 33 MHz clock frequency
HV2708	**16 SPST**	**SWA side Only**	**5**	**14**	**12/8**	**1.9A**	**Low Harmonic Distortion, Low Charge Injecti**
HV2707	**16 SPST**	**Both Sides**	**5**	**14**	**12/8**	**1.9A**	**Low Harmonic Distortion, Low Charge Injecti**
HV2607	**16 SPST**	**None**	**5**	**14**	**12/8**	**1.9A**	**Low Harmonic Distortion, Low Charge Injecti**
HV2918	**16 × 2:1 Mux**	**SW Side Only**	**5**	**6**	**22/4**	**2.7A**	**Low Harmonic Distortion, Low Charge Injecti**
HV2818	**16 × 2:1 Mux**	**None**	**5**	**6**	**22/4**	**2.7A**	**Low Harmonic Distortion, Low Charge Injecti**

ULTRASOUND: Ultrasound MOSFET Drivers

Part #	# of Channels	Input Voltage Min. (V)	Input Voltage Max. (V)	Ouput Voltage Bipolar (V)	Output Voltage Unipolar (V)	Output Rise/ Fall Time	Peak Current	Application Circuit
MD1210	2	1.2	5.0	NA	0–12	6 ns/6 ns	±2A	Pair with 1 × TC6320
MD1211	2	1.8	5.0	NA	0–12	10 ns/10 ns	±2A	Pair with 1 × TC6320
MD1213	2	1.8	5.0	±5	0–12	6 ns/6 ns	±2A	Pair with 1 × TC6320
MD1711	12	1.8	3.3	NA	0–12	8 ns/8 ns	±2A	Pair with 6 × TC6320 to form a 2-Channel 5-Level Pulser
MD1712	12	1.8	3.3	NA	0–12	8 ns/8 ns	±2A	Pair with 6 × TC6320 to form a 2-Channel 5-Level Pulser
MD1715	12	1.8	3.3	NA	0–12	6.5 ns/6.5 ns	±2A	Pair with 1 × TC8020 to form a 2-Channel 5-Level Pulser
MD1716	12	1.8	3.3	NA	0–12	6.5 ns/6.5 ns	±2A	Pair with 1 × TC8020 to form a 3-Channel 3-Level Pulser
MD1810	4	1.8	5	±5	0–12	6 ns/6 ns	±2A	Pair with 2 × TC6320 to form a 1-Channel 4-Level Pulser/2 Channel 2 Level Pulser/1 C
MD1811	4	1.8	5	±5	0–12	6 ns/6 ns	±2A	Pair with 2 × TC6320 to form a 2-Channel 2-Level Pulser
MD1812	5	1.8	5	±5	0–12	6 ns/6 ns	±2A	Pair with 1 × TC6320 and 1 × TC2320 to form a 1-Channel 3-Level Pulser
MD1813	5	1.8	5	±5	0–12	6 ns/6 ns	±2A	Pair with 1 × TC6320 and 1 × TC2320 to form a 1-Channel 3-Level Pulser
MD1820	4	1.8	5	±5	0–12	7 ns/7 ns	±2A	Pair with 2 × TC6320 to form a 1-Channel 4-Level Pulser/2-Channel 2 Level Pulser/1 C
MD1821	4	1.8	5	±5	0–12	7 ns/7 ns	±2A	Pair with 2 × TC6320 to form a 2-Channel 2-Level Pulser
MD1822	4	1.8	5	±5	0–12	7 ns/7 ns	±2A	Pair with 2 × TC6320 to form a 1-Channel 3Level Pulser

ULTRASOUND: Ultrasound TR Switches

Part #	# of Channels	Noise (per √Hz)	Features
MD0100	1/2	0.7 nV/√Hz	±100V Ultrasound T/R Switches
MD0101	4	0.8 nV/√Hz	±100V Ultrasound T/R Switches with Clamp Diode
MD0105	4	0.8 nV/√Hz	±130V Ultrasound T/R Switches

ULTRASOUND: Arbitrary Waveform Generators

Part #	Output	Sampling Frequency	Features
MD2131	Push-Pull Source Drive	250 MHz	8-bit DAC, 48-step phase, PWM, 8-bit Apodization DAC
MD2134	Push-Pull Source Drive	250 MHz	8-bit DAC, 7-bit PAM, 16-Level

ULTRASOUND: Ultrasound Transmitters

Part #	Output Voltage (V)	Output Current (A)	Number of Channels	Features
HV748	±75	±1.25	4	4-Channel 2-Level RTZ
HV7360	±100	±2.5	1 or 2	1-Channel 3-Level or 2-Channel 2-Level
HV7361	±100	±2.5	1 or 2	1-Channel 3-Level or 2-Channel 2-Level with integrated T/R
HV7355	150	±1.5	8	8-Channel Unipolar Active RTZ
HV7350	±60	±1.0	8	8-Channel 3-Level
HV7351	±70	±3.0	8	8-Channel 3-Level with Built-in Digital Beamformer
HV7321	±80	±2.5	4	4-Channel 5-level RTZ, HD2 –44 dB @ 5 MHz
HV7322	±80	±2.0	8	8-Channel 7-level with dual T/R
HV7358	±80	±1.6	16	16-Channel 3-Level with Built-in Digital Beamformer and T/R

POWER MANAGEMENT: AC/DC

Part #	Minimum Input Voltage (V)	Maximum Input Voltage (V)	Osc Frequency Min (kHz)	Osc Frequency Max (kHz)	On-Board FET?	Type of On-Board FET?	Rds,on (Max, 25C)?	Ove Pro
MCP1012	16V (Typical)	500V Continuous/700V Transient	37	63	FALSE	NA	NA	Cycle

PoE Controllers					
Part #	Standards Supported	Ports	Operating Temperature	Host Interface	Temper
PD69210	IEEE 802.3af, IEEE 802.3at, IEEE 802.3bt, UPoE, PoH	48	–40 to +85	I²C UART	Inc
PD69220	IEEE 802.3af, IEEE 802.3at, IEEE 802.3bt, UPoE, PoH	48	–40 to +85	I²C UART	Inc

For a complete list of development tools, please visit www.microchip.com/development tools.

Thermal Management Products

MCP9600 Evaluation Board (ADM00665)

The MCP9600 Evaluation Board is used to digitize the Thermocouple EMF voltage to degree Celsius with ±1.5°C accuracy. You can easily evaluate all device features using a Type K thermocouple. The device also supports Types J, T, N, E, B, S and R. Each of these types are evaluated by replacing the Type K Thermocouple connector with the corresponding connectors (not included).

Thermocouple Reference Design (TMPSNSRD-TCPL1)

This reference design demonstrates how to instrument a thermocouple and accurately sense temperature over the entire thermocouple measurement range. This solution uses the MCP3421 18-bit Analog-to-Digital Converter (ADC) to measure voltage across the thermocouple.

Sensor Products

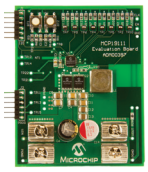
Linear Sensor Kit (LXK3301AL003)

This 100 mm linear position sensor evaluation kit comes will all you need to test out inductive technology for a linear sensor. The kit includes a 100 mm linear sensor evaluation board, a programmer that is run from our Integrated Programming and Calibration Environment (IPCE) GUI and applicable cables.

Rotary Sensor Kit (LXK3301AR001)

This 18 mm 120° rotary position sensor evaluation kit comes will all you need to test out inductive technology for a rotary sensor. The kit includes a rotary position sensor evaluation board, a programmer that is run from our Integrated Programming and Calibration Environment (IPCE) GUI and applicable cables.

Power Management Products

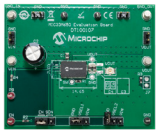


MCP19111 Evaluation Board (ADM00397)

The MCP19111 is a digitally-enhanced PWM controller. It combines a pure-analog PWM controller with a supervisory MCU making it a fast, cost-effective and configurable power conversion solution. The MCP19111 is ideal for standard power conversion, LED drivers and battery charging applications. This board demonstrates how the device operates in a synchronous buck topology over a wide input voltage and load range.

MCP16251 and MCP1640B Synchronous Boost Converters Evaluation Board (ADM00458)

This board demonstrates the MCP16251/MCP1640B in two boost-converter applications with multiple output voltages and was developed to help reduce product design cycle time. Three common output voltages can be selected: 2.0V, 3.3V and 5.0V.



MIC33M650 6A Step Down Module Evaluation Board (DT100107)

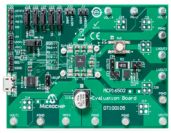
The boards are intended to provide a platform allowing customers to easily evaluate the features of the new MIC33M650 6A Power Modules in a buck converter application with adjustable output voltage through pin-strapping using on board jumpers. These boards are ideal for powering core supply voltages and also high-power single-cell Li-ion battery powered applications.

MIC33M656 6A Step Down Module Evaluation Board (DT100108)

The boards are intended to provide a platform allowing customers to easily evaluate the features of the new MIC33M656 6A Power Modules in a buck converter application with output voltage and other settings via I2C. These boards are ideal for powering core supply voltages and also high power single-cell Li-ion battery-powered applications.

For a complete list of development tools, please visit www.microchip.com/development tools.

Power Management Products (continued)



DT100105 Evaluation Board (MCP16502)

The MCP16502 Evaluation Board was developed to evaluate the capabilities of the MCP16502 High Performance Power Management Integrated Circuit (PMIC) designed for SAMA5Dx/SAM9x6 MPUs. The device features 4 DC-DC buck converters capable of delivering 1A each, 2 LDOs with 300mA current capability and I2C programable output voltages and 4 operating modes: Active, Low Power, Hibernate and High Performance Mode

MCP1633 SEPIC LED DRIVER Demo Board (ADM01002)

The MCP1633 SEPIC LED Driver Demo Board is a step-up/step-down, switch-mode, DC/DC converter used for LED driver applications. The demo board provides a 200mA constant current source. Other output currents can be obtained with minor modifications to the board's Bill of Materials (BOM). MCP1633 LED Driver Demo Board utilizes Microchip's MCP1633 high-speed Pulse-Width Modulator (PWM). The small 16-pin QFN MCP1633 device contains all the analog components necessary for a peak current mode control loop including specialized LED driver blocks. An 8-pin PIC12F1822 microcontroller is used to implement the dimming and protection functions.

MIC23350 3A Synch Buck Regulator Evaluation Board (ADM00880)

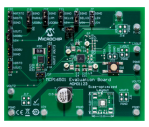
The MIC23350 Evaluation Board is developed to evaluate and demonstrate Microchip Technology's MIC23350 product. The board features the MIC23350 in a typical Buck application supplied from an external source, between 2.4V–5.5V. Nine output voltage levels can be set via two Voltage Select pins. Test connectors allow probing, while the board can be loaded up to 3A.

MIC23650 6A Synch Buck Regulator Evaluation Board (ADM00885)

The MIC23650 Evaluation Board is developed to evaluate and demonstrate Microchip Technology's MIC23650 product. The board features the MIC23650 in a typical Buck application supplied from an external source, between 2.4V–5.5V. Nine output voltage levels can be set via two Voltage Select pins. Test connectors allow probing, while the board can be loaded up to 6A.

MCP1633 SEPIC LED DRIVER DEMO BOARD (ADM01002)

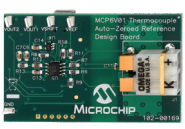
The MCP1633 SEPIC LED Driver Demo Board is a step-up/step-down, switch-mode, DC/DC converter used for LED driver applications. The demo board provides a 200mA constant current source. Other output currents can be obtained with minor modifications to the board's Bill of Materials (BOM). MCP1633 LED Driver Demo Board utilizes Microchip's MCP1633 high-speed Pulse-Width Modulator (PWM). The small 16-pin QFN MCP1633 device contains all the analog components necessary for a peak current mode control loop including specialized LED driver blocks. An 8-pin PIC12F1822 microcontroller is used to implement the dimming and protection functions.



MCP16501 Evaluation Board (ADM01123)

MCP16501 evaluation boards are used to evaluate the MCP16501 PMIC. This is an addition to MCP1650x brand new family of PMICs targeted for MPU power. The board will not include I2C communication, as the IC does not support this, but it will still support load transient testing and voltage setting for the channels and stability analysis testing. Dimensions are similiar with the MCP16502 eval board.

Linear Products

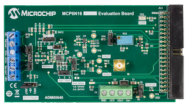


MCP6V01 Thermocouple Auto-Zeroed Reference Design Board (MCP6V01RD-TCPL)

The MCP6V01 design board demonstrates how to use a difference amplifier system to measure Electromotive Force (EMF) voltage at the cold junction of thermocouple to accurately measure temperature of the thermocouple bead. This can be done by using the MCP6V01 auto-zeroed op amp because of its ultra-low offset voltage (Vos) and high Common Mode Rejection Ratio (CMRR).

For a complete list of development tools, please visit www.microchip.com/development tools.

Linear Products (continued)



MCP6N16 Evaluation Board (ADM00640)

This board is designed to provide an easy and flexible platform when evaluating the MCP6N16, a zero-drift instrumentation amplifier designed for low-voltage operation featuring rail-to-rail input and output performance. The board is populated with the MCP6N16-100, which is optimized for gains for 100V/V or higher.

MCP6421 EMIRR Evaluation Board (ADM00443)

The MCP6421 EMIRR Evaluation Board is intended to support the Electromagnetic Interference Rejection Ratio (EMIRR) measurement and to show the Electromagnetic Interference (EMI) rejection capability of the MCP6421 op amp.

Mixed Signal Products

MCP37X3X-200 16-bit 200 Msps ADC VTLA Evaluation Board (ADM00505)

This board provides the opportunity to evaluate the performance of the MCP37X3X-200 device family. With the on-board MCP37D31-200 16-bit 200 Msps pipelined ADC, it allows you to evaluate the functionality of the 16-bit 200 Msps ADCs and the digital signal processing features. With the help of a compatible data capture card, the evaluation board can provide you with performance analysis features through the PC GUI.

PAC1921 High-Side Power and Current Monitor Evaluation Board (ADM00592)

The PAC1921 is a dedicated power monitoring device with a configurable analog output. This device is unique in that all power-related information is available on the 2-wire/I²C-compatible interface and power, current or voltage is available on the analog output. This evaluation board provides you with the means to exercise device functionality while connected either to target systems or while utilizing on-board sources.

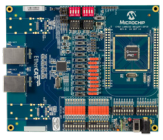
MCP39F511 Power Monitor Demonstration Board (ARM00667)

The MCP39F511 Power Monitor Demonstration Board is a fully functional single-phase power monitor and energy monitoring system. The system calculates and displays active power, reactice power, RMS current, RMS voltage, active energy (both import and export) and four quadrant reactive energy. The Power Monitor Utility Software enables you to easily experiment with all system configuration settings such as zero-cross detection, PWM output frequencies, event configurations and calibration setup.

Interface Products

UCS81003 Evaluation Board (ADM00561)

This board provides the ability to evaluate the features of the UCS81003 Automotive USB Port Power Controller with Charger Emulation. It allows the UCS81003 to be tested in different configurations by populating jumpers on specific header locations. The Evaluation Board contains the MCP2221 USB to I²C bridge, which allows communication via USB between the UCS81003 and the GUI running on the PC.

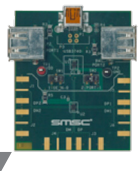


LAN9252 EtherCAT® Device Controller Evaluation Kit with HBI PDI Interface (EVB-LAN9252-HBI)

This kit is a standalone platform to develop an EtherCAT device. It offers flexibility to explore different host bus interfaces such as 8-bit and 16-bit parallel bus, SPI and SQI™.

LAN874X 10/100 Ethernet Transceiver with EEE and Wake-On-LAN (EVB8740)

The EVB8740 is a PHY evaluation board for our LAN874X family, which integrates Energy Efficient Ethernet and Wake-on-LAN features. It interfaces to a MAC controller via a standard MII or RMII interface.



USB3740 Hi-Speed USB 2.0 2-Port Switch (EVB-USB3740)

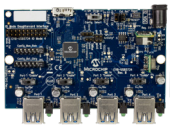
The EVB-USB3740 is used to evaluate our USB3740 USB 2.0 compliant 2-port switch. Some applications require a single USB port to be shared with other functions. The USB3740 is a small and simple 2-port switch providing system design flexibility.

For a complete list of development tools, please visit www.microchip.com/development tools.

Interface Products (continued)

UTC2000 Basic USB Type-C™ Controller Evaluation Kit (EVK-UTC2000)

The EVK-UTC2000 is a complete kit to evaluate our UTC2000 basic USB-C controller. It includes a downstream-facing port dongle which can connect to any standard host, an upstream-facing port board to mimic a USB-C device, as well as a USB-C cable.

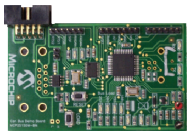


USB5734 USB 3.1 Gen1 Controller Hub Evaluation Board (EVB-USB5734)

This board is a demonstration and evaluation platform that provides the necessary requirements and interface options for evaluating the USB5734 Smart Hub on a 4-layer RoHS-compliant PCB. This will allow you to gain an understanding of the product and accelerate integration into your design.

USB5926 USB 3.1 Gen1 Smart Hub with 2:1 USB-C MUX Evaluation Board (EVB-USB5926)

This board demonstrates implementation of USB Type-C ports using Microchip's UTC2000 CC pin interface controller and the USB5926's built-in 2:1 Muxes. The board supports two downstream facing USB Type-C ports along with an upstream facing USB Type-C port. The USB5926 also supports two additional downstream Type A ports for legacy purposes.



MCP2515 CAN Bus Monitor Demo Board (MCP2515DM-BM)

The MCP2515 CAN Bus Monitor Demo board kit contains two identical boards that can be connected together to create a simple two-node Controller Area Network (CAN) bus, which can be controlled and/or monitored via the included PC interface. The board(s) can also be connected to an existing CAN bus.

USB to UART Converter Evaluation Board (MCP2200EV-VCP)

The MCP2200EV-VCP is a USB-to-RS232 development and evaluation board for the MCP2200 USB-to-UART device. The board allows for easy demonstration and evaluation of the MCP2200. The accompanying software allows the special device features to be configured and controlled. The board is powered from USB and has a test point associated with each GPIO pin. In addition, two of these pins are connected to LEDs which can be used to indicate USB-to-UART traffic when the associated pins are configured as TxLED and RxLED pins respectively.

Total System Solutions

ATSAMA5D27-WLSOM1 Evaluation Kit

The ATSAMA5D27-WLSOM1-EK1 is ideal for evaluating and prototyping with the SAMA5D27-WLSOM1, Wireless System On Module (SOM) and the SAMA5D27C-LD2G, LPDDR2 System In Package (SIP). The Evaluation Kit is made up of a baseboard, an ATSAMA5D27-WLSOM1 SOM soldered on the baseboard and an ATSAMA5D27C-LD2G SIP soldered on the SOM.

SAMA5D27-SOM1-EK1

The ATSAMA5D27-SOM1-EK1 is a fast prototyping and evaluation platform for the SAMA5D2 based System in Packages (SiPs) and the SAMA5D27-SOM1 (SAMA5D27 System On Module). The kit comprises a baseboard with a soldered ATSAMA5D27-SOM1 module. The module features an ATSAMA5D27C-D1G-CU SIP embedding a 1-Gbit (128 MB) DDR2 DRAM. The SOM integrates a Power Management IC (PMIC), a QSPI memory, a 10/100 Mbps Ethernet PHY and a serial EEPROM with a MAC address. 128 GPIO pins are provided by the SOM for general use in the system.

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