General Description

The MAX809 series are highly accurate, low power consumption voltage detectors, manufactured using CMOS and laser trimming technologies.

A delay circuit is built-in to each detectors.

Detect voltage is extremely accurate with minimal temperature drift.

Since the delay circuit is built-in, peripherals are. unnecessary and high density mounting is possible.

Pin Assignment

SOT-23

PIN NO.	PIN NAME	FUNCTION
1	GND	GND pin
2	VCC	Supply Voltage
3	Reset	Reset pin

Features

- Low power consumption
- Low temperature coefficient
- Built-in delay circuit: 200ms
- High input voltage (up to 6V)
- Output voltage accuracy: tolerance ±2%
- SOT-23 package

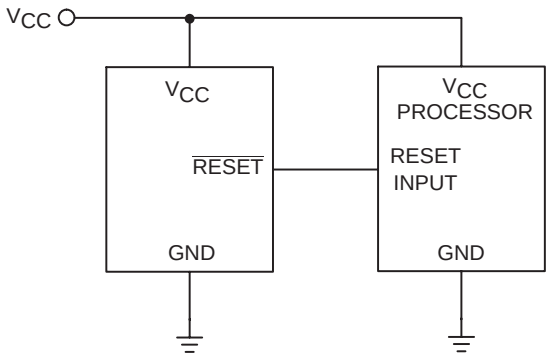
Applications

- Computers
- Embedded Systems
- Power on reset circuits
- Battery Powered Equipment
- Critical uP Power Supply Monitoring

Selection Table

Part No	Detectable Voltage	Delay Time	Tolerance	Package
MAX809L	4.63V	200ms	±2%	SOT-23
MAX809M	4.38V		±2%	
MAX809J	4.00V		±2%	
MAX809T	3.08V		±2%	
MAX809S	2.93V		±2%	
MAX809R	2.63V		±2%	

Application Circuits



Absolute Maximum Ratings

Input Voltage .....-0.3V to VCC+0.3V Storage Temperature .....-40℃ to 125℃

Operating Temperature .....-40℃ to 85℃

Note: These are stress ratings only. Stresses exceeding the range specified under “Absolute Maximum Ratings” may cause substantial damage to the device. Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to extreme conditions may affect device reliability.

Thermal Information

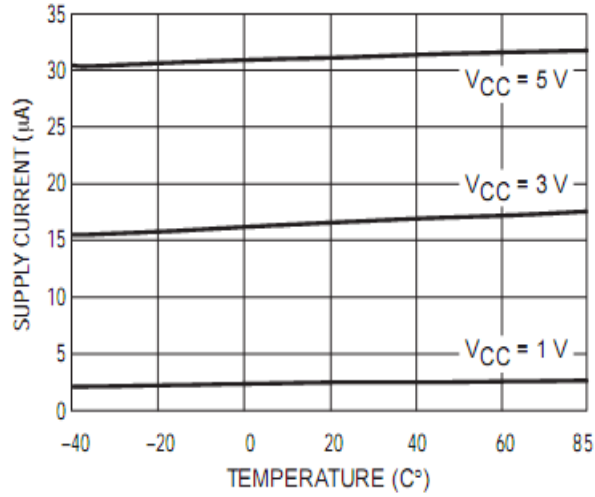
Symbol	Parameter	Max.	Unit
θ_{JA}	Thermal Resistance (Junction to Ambient) (Assume no ambient airflow, no heat sink)	260	℃/W
P_D	Power Dissipation	0.23	W

Note: P_D is measured at Ta= 25℃

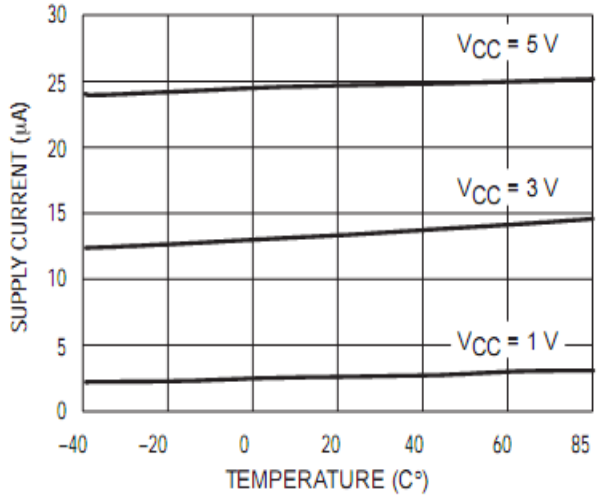
Electrical Characteristics

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_{CC}	Input Voltage (V_{CC}) Range	25℃	1.2		5.5	V
I_{SS}	Supply Current	MAX809L/M/J:VCC＜5.5V MAX809R/S/T:VCC＜3.6V		24 17	60 50	μA
V_{DET}	Reset Threshold	MAX809L:TA=25℃	4.56	4.63	4.70	V
		MAX809MTA=25℃	4.31	4.38	4.45	
		MAX809J:TA=25℃	3.93	4.00	4.06	
		MAX809T:TA=25℃	3.04	3.08	3.11	
		MAX809S:TA=25℃	2.89	2.93	2.96	
		MAX809R:TA=25℃	2.59	2.63	2.66	
	Reset Threshold Stability			30		Ppm/℃
	V_{CC} to Reset Delay	V_{CC}= V_{TH} to V_{TH} -100mV		20		us
V_{OL}	RESET Output Voltage Low	MAX809L/M/J:VCC=VTH min,ISINK=1.2mA MAX809R/S/T:VCC=VTH min,ISINK=3.2mA VCC＞1.0V, ISINK=50uA			0.4 0.3 0.3	V
V_{OH}	RESET Output Voltage High	MAX809L/M/J:VCC=VTH min,ISINK=0.5mA MAX809R/S/T:VCC=VTH min,ISINK=0.8mA	0.8 VCC VCC-1.5			V

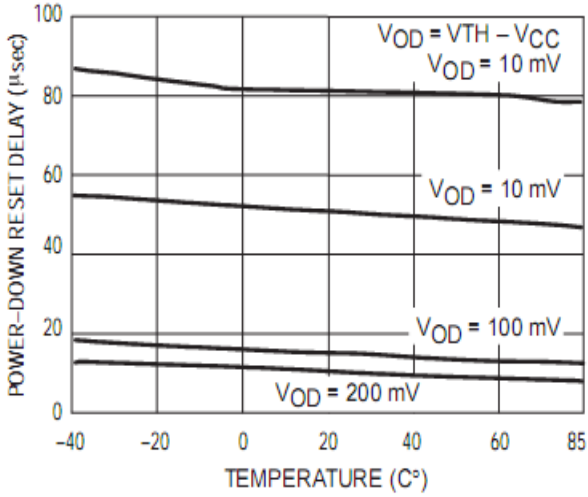
Typical Characteristics



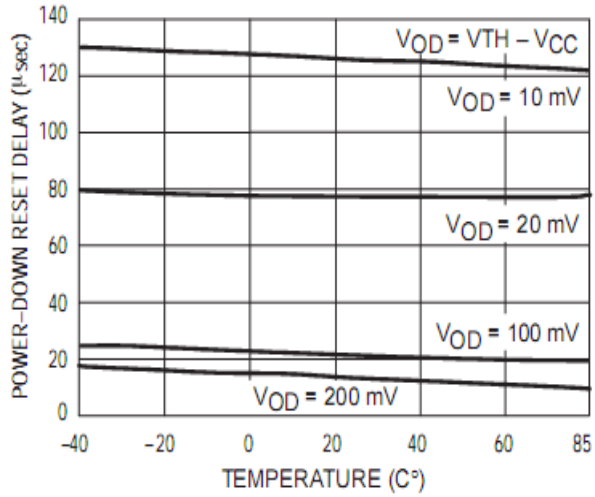
Supply Current vs Temperature (No Load, MAX809R/S/T)



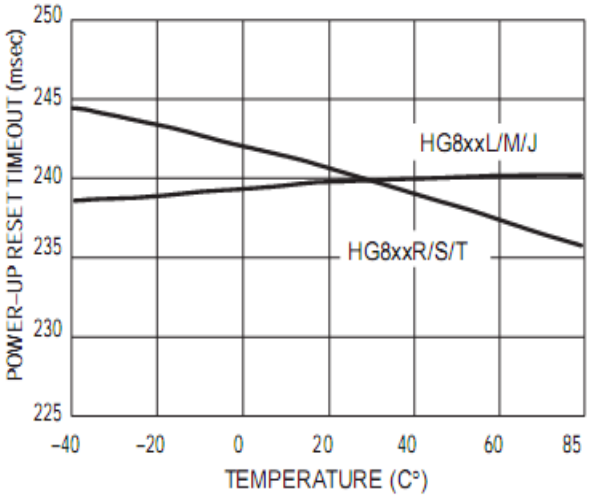
Supply Current vs Temperature (No Load,MAX809L/M/J/)



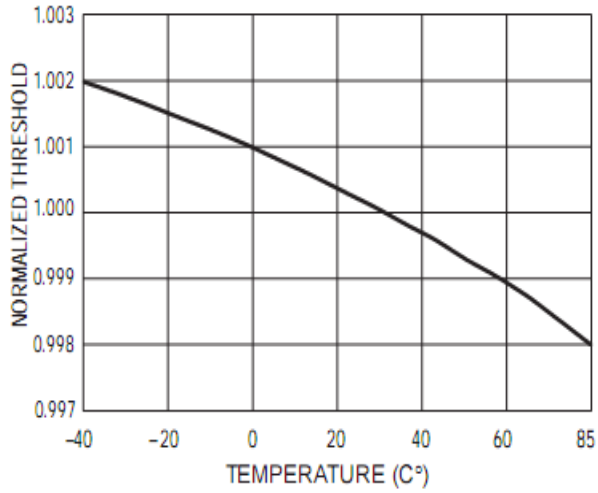
Power–Down Reset Delay vs Temperature and Overdrive (MAX809R/S/T)



Power–Down Reset Delay vs Temperature and Overdrive (MAX809L/M/J)

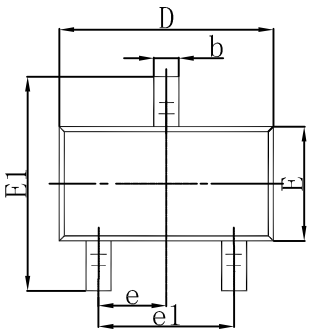


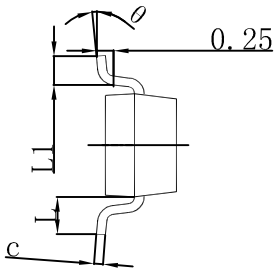
Power–Up Reset Timeout vs Temperature

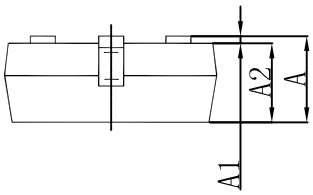


Normalized Reset Threshold vs Temperature

SOT-23 Package Outline Dimensions

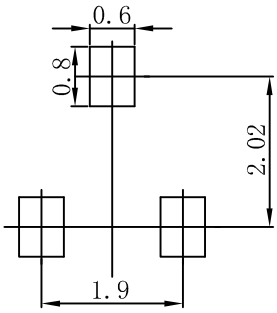






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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