

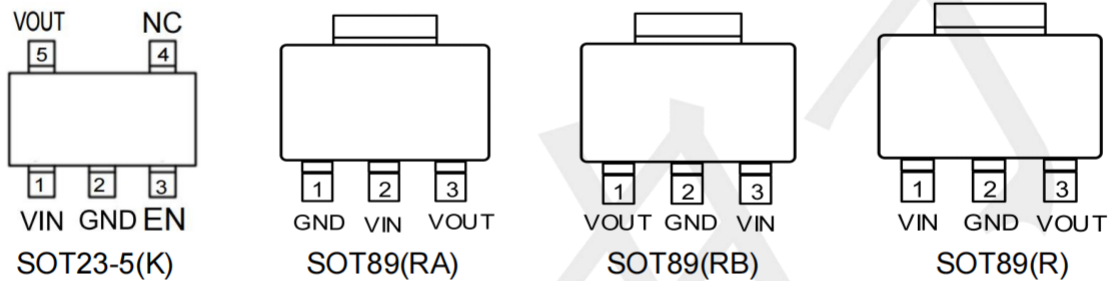
### Features

- 5µA Current at no Load
- ±2% Output Accuracy
- 150mA Output Current
- Current Limit Protection

### Applications

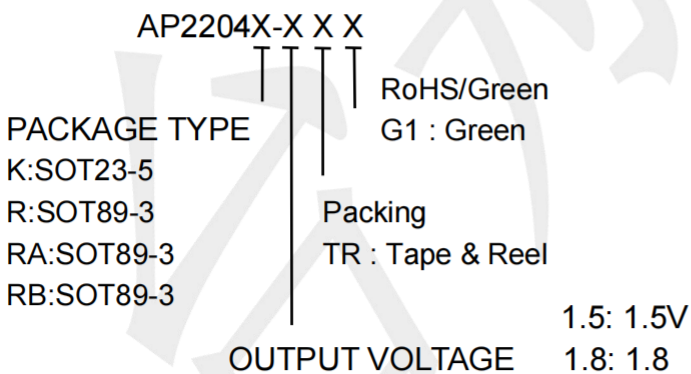
- Industrial Controls
- Home Automation
- Modules (Wireless, Camera, etc.)
- Portable, Battery Powered Equipment

### PIN CONFIGURATION



Pin Number				Pin Name	Pin Function
SOT23-5(K)	SOT89(RA)	SOT89(RB)	SOT89(R)		
2	1	2	2	GND	Ground
1	2	3	1	VIN	Input of Supply Voltage
5	3	1	3	VOUT	Output of the Regulator
3	--	--	--	EN	Enable Control Input
4	--	--	--	NC	No Internal Connection

### Ordering Information



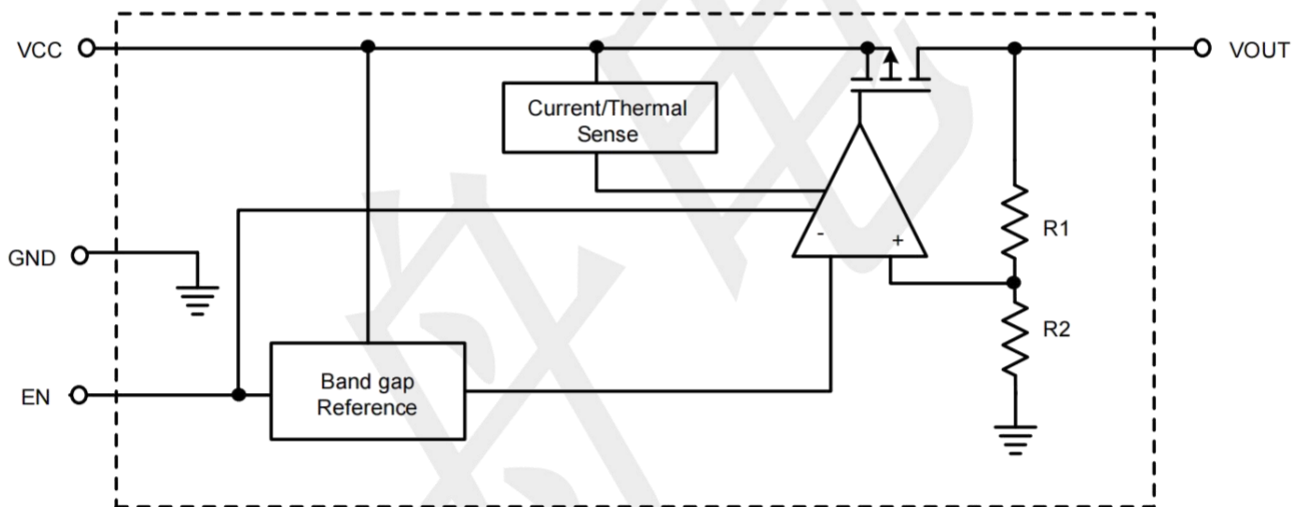
Example: AP2204K-3.3TRG1  
 → 3.3V Version, in SOT23-5 Package & Tape & Reel Packing Type

### Absolute Maximum Ratings

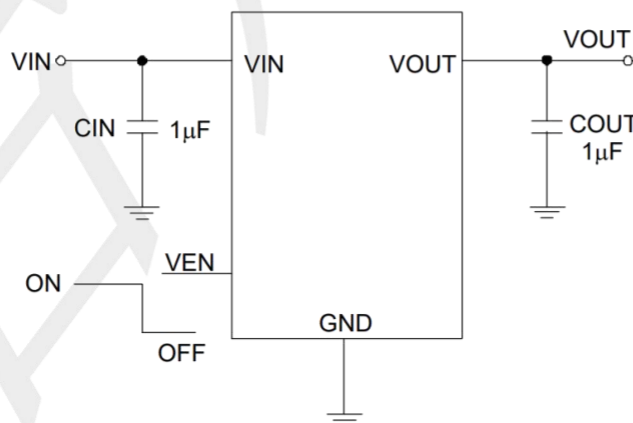
over operating free-air temperature range (unless otherwise noted)

		MIN	MAX	UNIT
VIN	Continuous input voltage range	-0.3	29	V
VOUT	Output voltage range	-0.3	6	
EN	EN pin voltage range	-0.3	VOUT+0.3	
IOUT	Output pin current	Internally limited		mA
Temperature	Operating junction, T <sub>J</sub>	-25	85	°C
	Storage, T <sub>stg</sub>	-40	125	

### BLOCK DIAGRAM



### Typical Application Circuit



## Electrical Characteristics

(VIN=15V, VEN=5V, TA=25°C, unless otherwise specified)

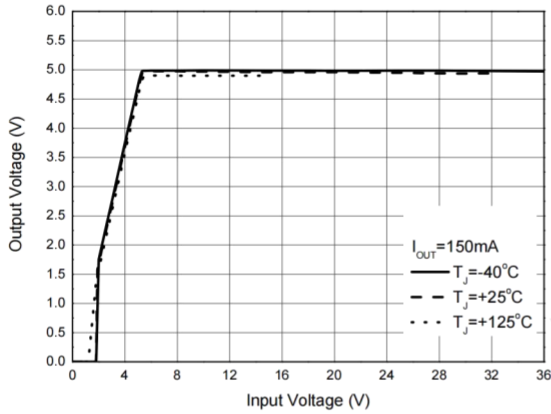
PARAMETER	SYMBOL	TEST Conditions	MIN	TYP	MAX	UNIT
Supply Voltage	VIN		1.7	--	27	V
Output current	IOUT		0	250	300	mA
DC Output Voltage Accuracy		IOUT = 0.1mA	-2	--	2	%
Dropout Voltage (VIN-VOUT)	IOUT = 100mA	VOUT = 2.8V	--	480	--	mV
		VOUT = 3.0V	--	450	--	
		VOUT = 3.3V	--	420	--	
		VOUT = 5.0V	--	350	--	
Maximum output current	Ioutmax	VIN= VOUT+1V	--	500	--	mA
Ground Current (IOUT = 0mA)	IQ	VOUT = 3.3V	--	5	--	uA
Shutdown Ground Current	ISD	VEN = 0V,	--	0.01	0.5	
VOUT Shutdown Leakage Current	ILEAK	VOUT = 0V	--	0.01	0.5	
Enable Threshold Voltage	VIH	EN Rising	1.3	--	--	V
	VIL	EN Falling	--	--	0.7	
EN Input Current	IEN	VEN = 5V	--	10	100	nA
Line Regulation	ΔLINE	IOUT = 1mA, 2≤VIN≤18V	--	0.3	--	%
Load Regulation	ΔLOAD	10mA≤ IOUT ≤ 100mA	--	0.3	--	
Output Current Limit	ILIM	VOUT=0.9× VOUT(NOM)	300	450		mA
Power Supply Rejection Ratio	PSRR	VOUT = 3.3V, IOUT = 30mA, VIN = 6V, f = 1kHz	--	65	--	dB
Thermal Shutdown Temperature	TSD	IOUT = 10mA	--	160	--	°C
Thermal Shutdown Hysteresis	ΔTSD		--	15	--	
Package Thermal Resistance θJA (Note 1)	SOT23-5	Thermal Resistance Junction-toAmbient	--	220	--	°C/W
	SOT23-3L		--	210	--	
	SOT89-3		--	120	--	
Total Power Dissipation Tc=25°C	SOT23-5	PDTOT	--	0.25	--	W
	SOT23-3L		--	0.3	--	
	SOT89-3		--	0.5	--	

Note: 1. Test condition: the device is mounted on FR-4 substrate PC board, with minimum recommended pad layout.

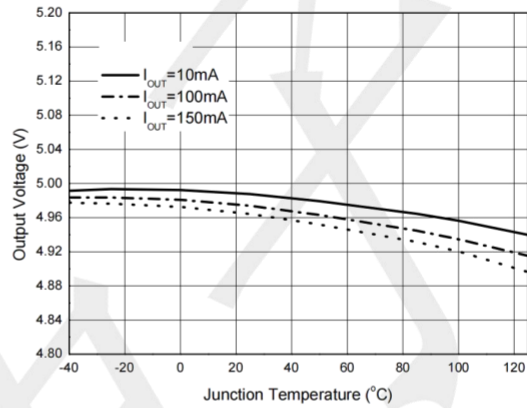
### Typical Operating Characteristics (25 °C, unless otherwise noted)

Unless otherwise specified:  $T_A = 25^\circ\text{C}$ ,  $V_{IN} = V_O(\text{NOM}) + 1\text{V}$ ,  $C_{OUT} = 1\ \mu\text{F}$ ,  $C_{IN} = 1\ \mu\text{F}$  all voltage options, EN pin tied to  $V_{IN}$ .

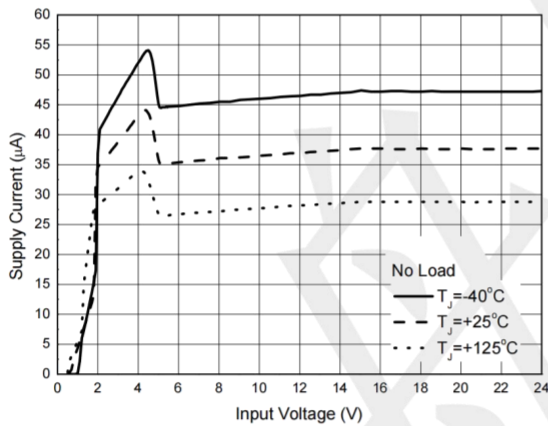
Output Voltage vs. Input Voltage



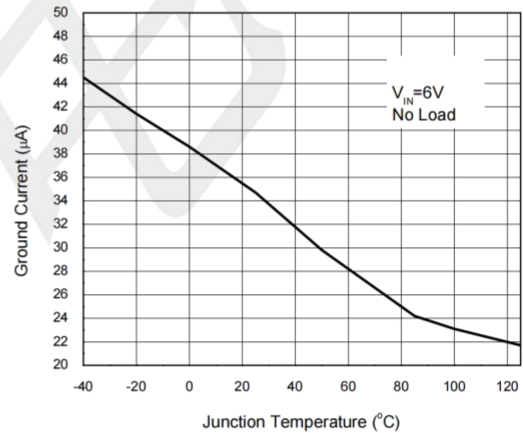
Output Voltage vs. Junction Temperature



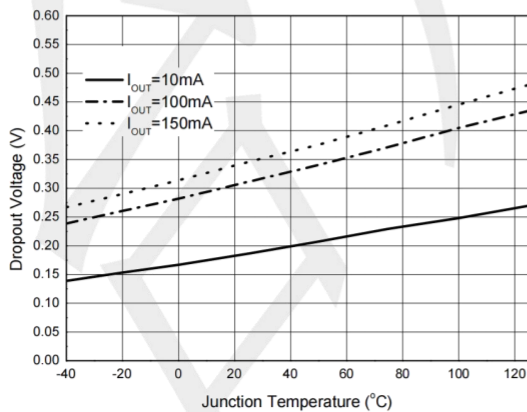
Supply Current vs. Input Voltage



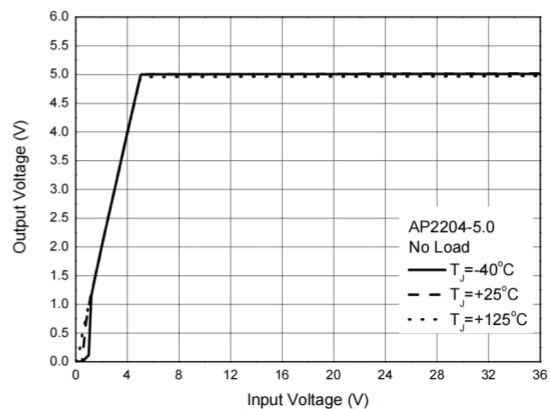
Ground Current vs. Junction Temperature



Dropout Voltage vs. Junction Temperature

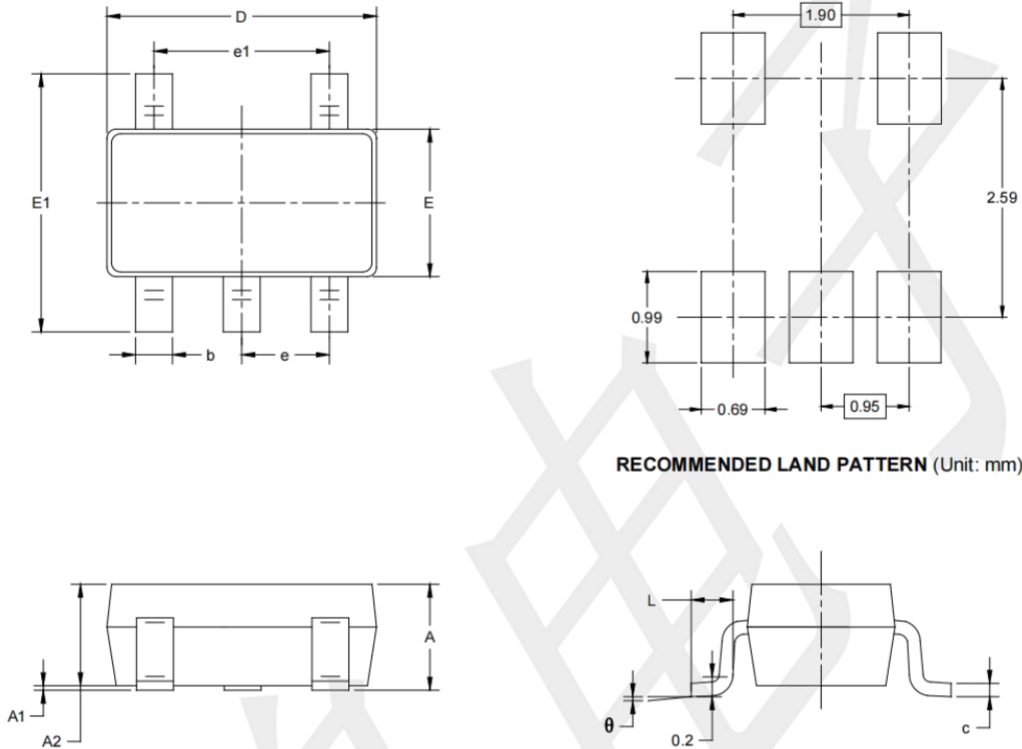


Output Voltage vs. Input Voltage



## Package information

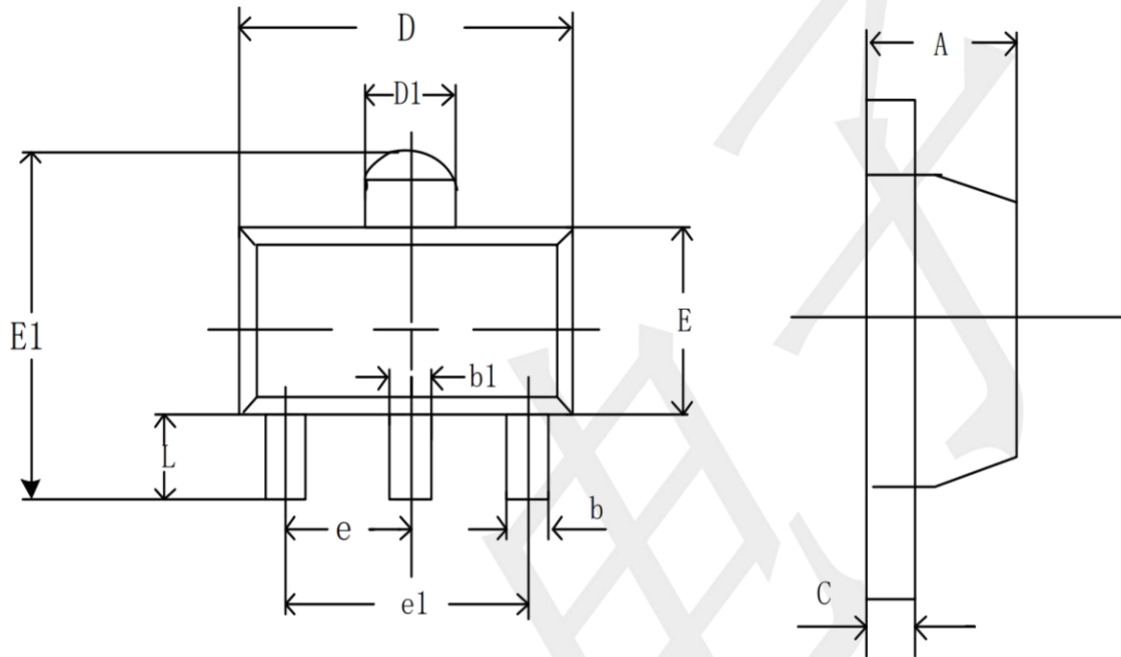
### SOT23-5



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950 BSC		0.037 BSC	
e1	1.900 BSC		0.075 BSC	
L	0.300	0.600	0.012	0.024
$\theta$	0°	8°	0°	8°

## Package information

### SOT89-3



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.350	0.520	0.013	0.197
b	0.400	0.580	0.016	0.023
c	0.350	0.450	0.014	0.018
D	4.400	4.600	0.173	0.181
D	1.550	1.750	0.061	0.069
E	2.350	2.600	0.091	0.102
E	3.720	4.530	0.146	0.178
e	1.500TYP		0.060TYP	
e	3.000TYP		0.118TYP	
L	0.820	1.100	0.032	0.047

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