

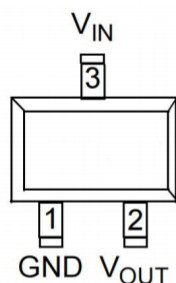
Features

- 2 μ A Current at no Load(TYP.)
- $\pm 2\%$ Output Accuracy
- 300mA Output Current
- Current Limit Protection

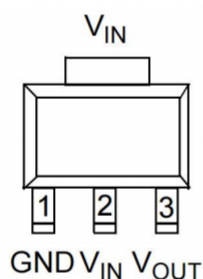
Applications

- Industrial Controls
- Home Automation
- Wireless power tools
- Motor driver and control board

PIN CONFIGURATION



SOT23-3L



SOT89-3

Pin Number		Pin Name	Pin Function
SOT23-3L	SOT89-3		
1	1	GND	Ground
2	3	VOUT	Output of the Regulator
3	2	VIN	Input of Supply Voltage

Ordering Information

TPMCP1703T-XX02E/CB

PACKAGE TYPE
CB:SOT23-3L
MB:SOT89-3

OUTPUT VOLTAGE

12: 1.2V
15: 1.5V
18: 1.8V
25: 2.5V
28: 2.8V
30: 3.0V
33: 3.3V
40: 4.0V
50: 5.0V

Example: TPMCP1703T-3002E/CB

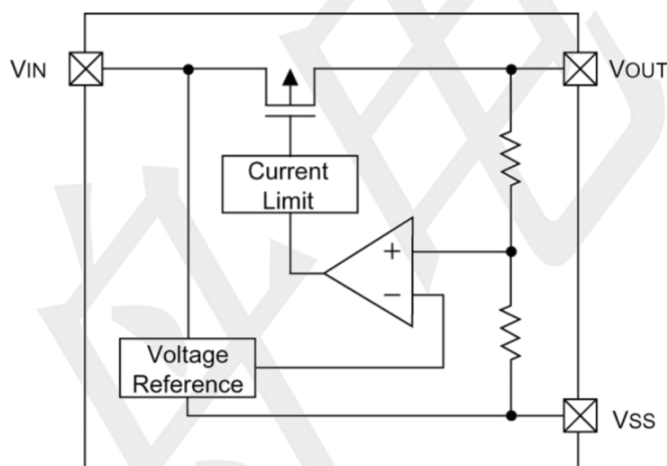
→ 3.0V Version, in SOT23-3L Package & Tape & Reel Packing Type

Absolute Maximum Ratings

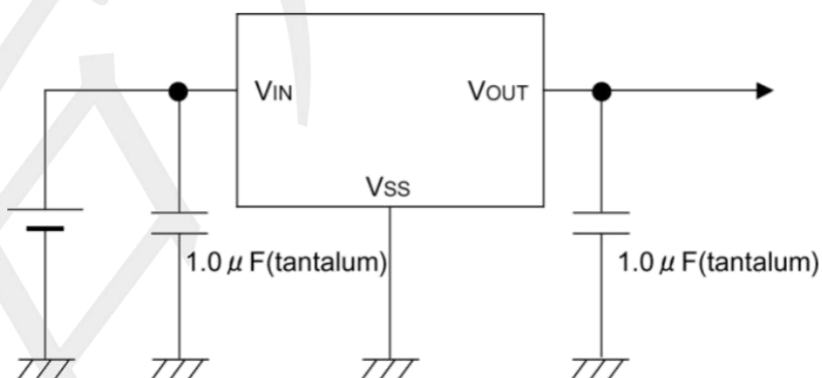
over operating free-air temperature range (unless otherwise noted)

		MIN	MAX	UNIT
VIN	Continuous input voltage range	-0.3	24	V
VOUT	Output voltage range	-0.3	24	
Current	Maximum output current	Internally limited		mA
Temperature	Operating Temperature, Topr	-40	+85	°C
	Storage, Tstg	-55	+125	
	Welding temperature and time, Tsolder		+260, 10s	
Power Dissipation	Pd SOT23-3L	200		mW
	Pd SOT89-3	500		

BLOCK DIAGRAM



Typical Application Circuit



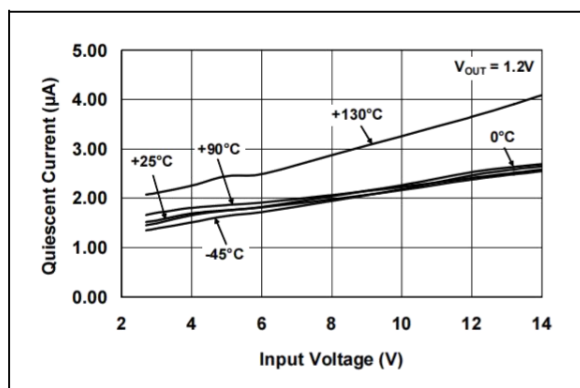
Electrical Characteristics

(TA=25°C, unless otherwise specified)

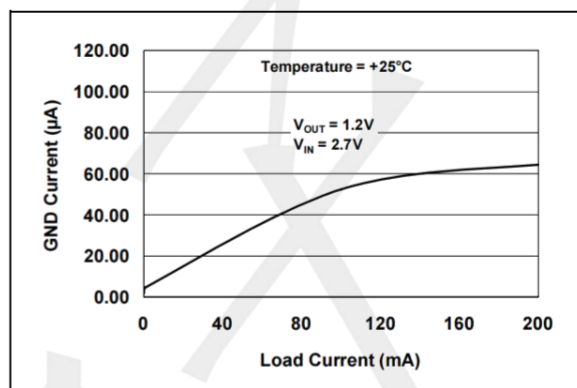
PARAMETER	SYMBOL	TEST Conditions	MIN	TYP	MAX	UNIT
Supply Voltage	VIN		--	--	20	V
Output current	IOUT(max)		300	--	--	mA
DC Output Voltage Accuracy		IOUT = 0.1mA	-2	--	2	%
Dropout Voltage (VIN-VOUT)	IOUT= 40mA ΔVO=2%	VOUT = 1.8V	--	200	--	mV
		VOUT = 2.5V	--	150	--	
		VOUT = 2.8V	--	120	--	
		VOUT = 3.0V	--	100	--	
		VOUT = 3.3V	--	90	--	
		VOUT = 4.0V	--	80	--	
		VOUT = 5.0V	--	60	--	
Ground Current (IOUT = 0mA)	IQ	VOUT = 3.3V	--	2.0	3.0	uA
Shutdown Ground Current	ISD	VEN = 0V,	--	0.01	0.5	
VOUT Shutdown Leakage Current	I _{LEAK}	VOUT = 0V	--	0.01	0.5	
Power supply voltage regulation rate	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \cdot V_{OUT}}$	IOUT = 40mA, VIN ≤ 18V	--	0.2	0.4	% / V
Output Current Limit	ILIM	VOUT=0.9× VOUT(NOM)	350	--	--	mA
Power Supply Rejection Ratio	PSRR	VOUT = 5V, IOUT = 30mA, VIN = 12V, f = 1kHz	--	70	--	dB
Thermal Shutdown Temperature	TSD	IOUT = 10mA	--	150	--	°C
Thermal Shutdown Hysteresis	ΔTSD		--	15	--	
Package Thermal Resistance (Note 1)	SOT23-3L	Thermal Resistance Junction-to-A mbient	--	200	--	°C/W
	SOT89-3		--	500	--	°C/W

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

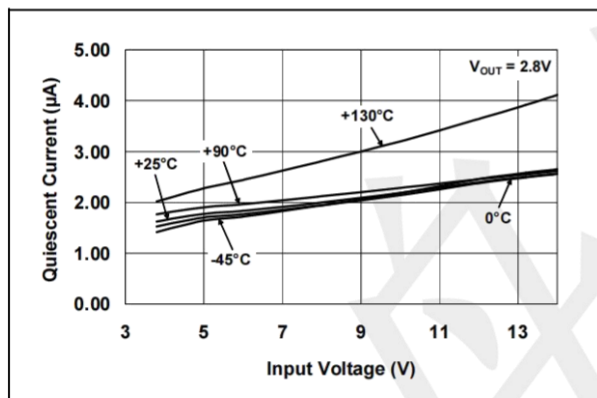
Typical Operating Characteristics (25 °C, unless otherwise noted)



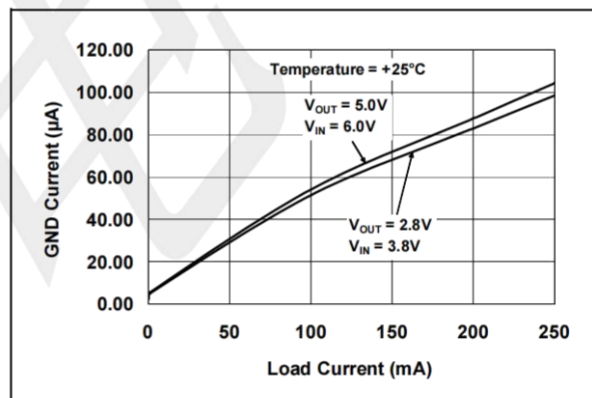
Quiescent Current vs. Input



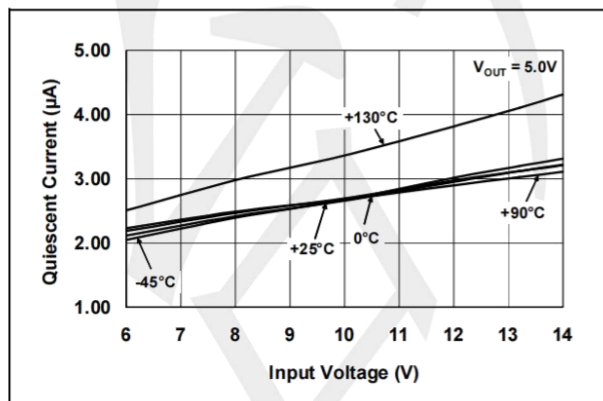
Ground Current vs. Load



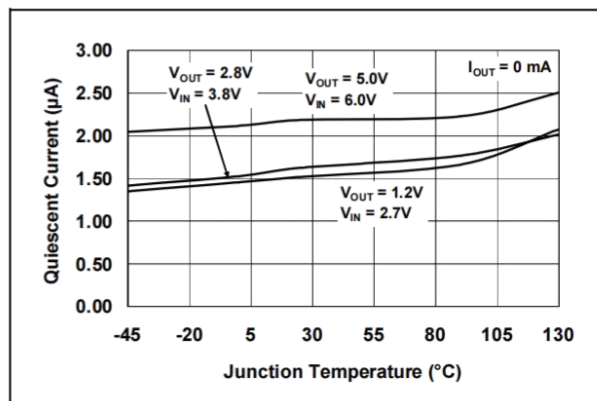
Quiescent Current vs. Input



Ground Current vs. Load



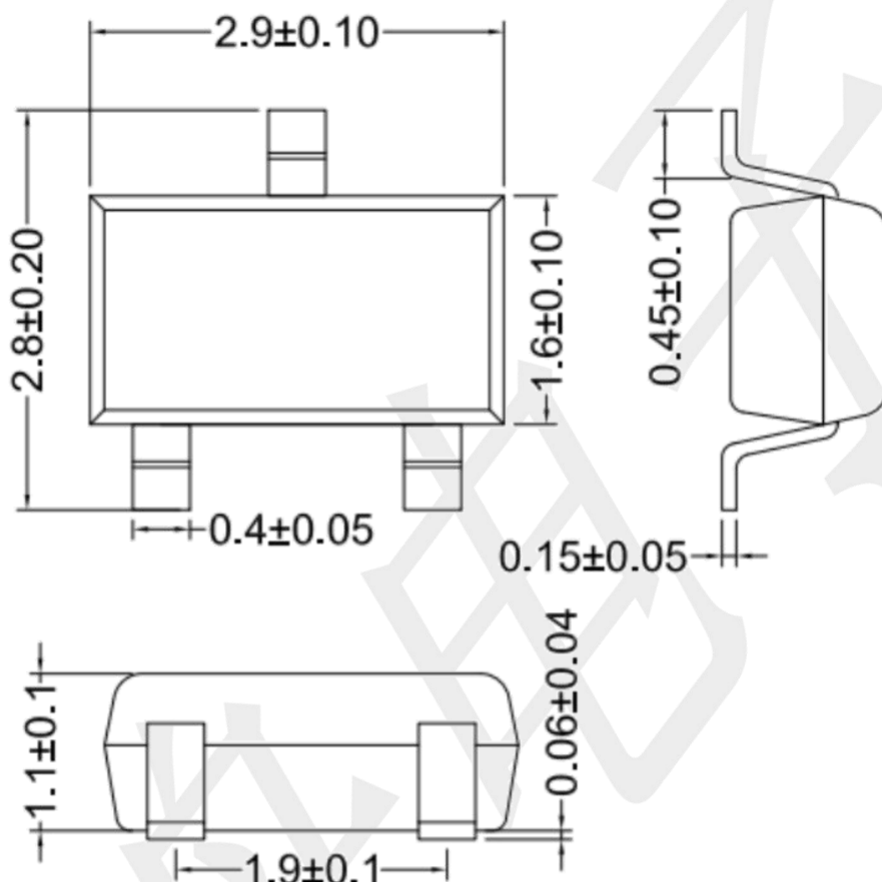
Quiescent Current vs. Input



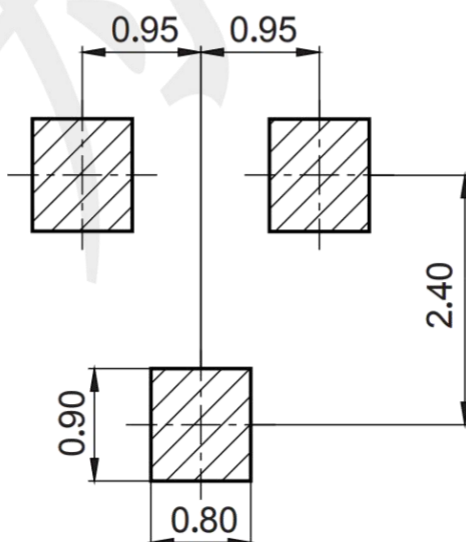
Quiescent Current vs.

Package Outline Dimensions (unit: mm)

SOT23-3L

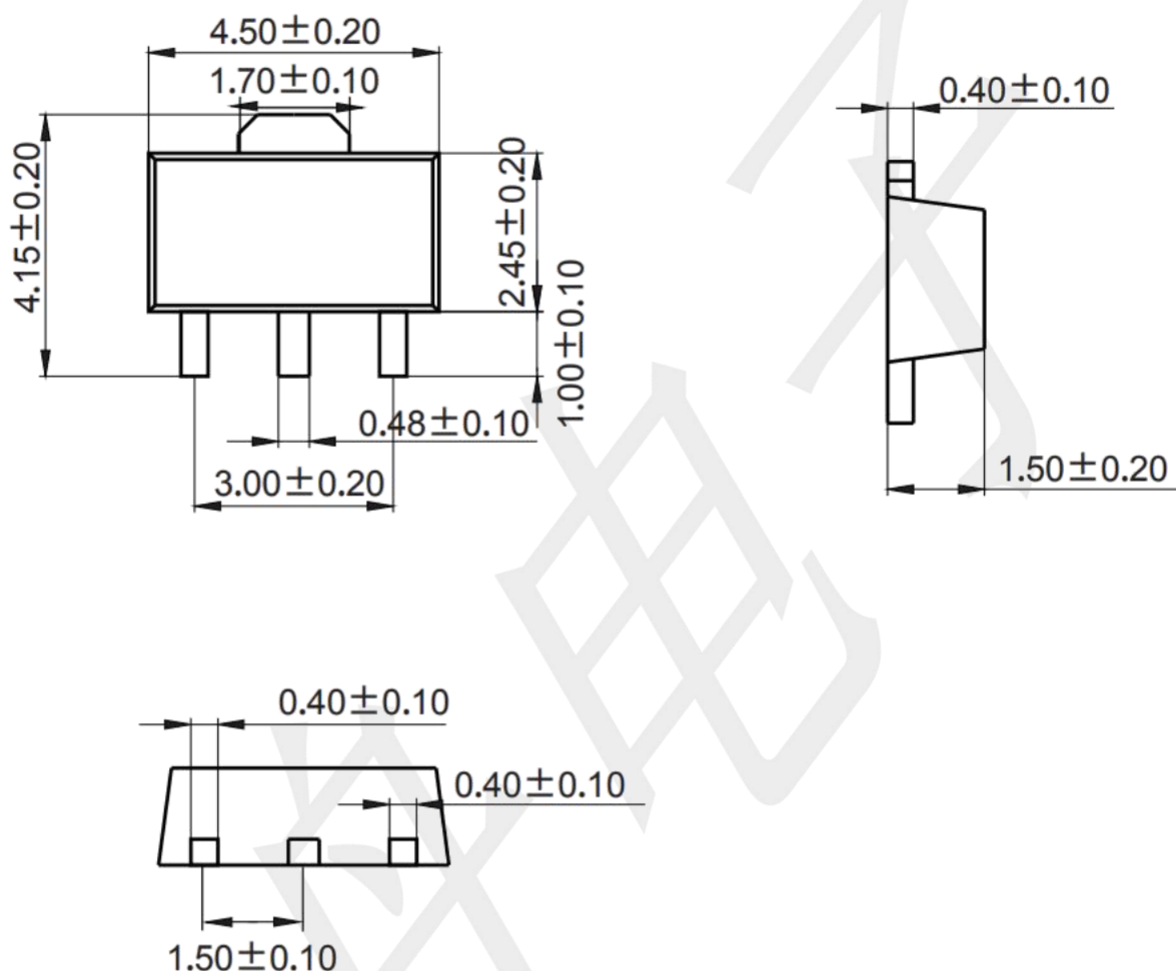


Mounting Pad Layout (unit: mm)



Package Outline Dimensions (unit: mm)

SOT89-3



Mounting Pad Layout (unit: mm)

