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TP308C50S3

Voltage Regulator

www.sot23.com.tw

Features

* Maximum Output Current I_O: 0.1 A
  Output Voltage Vo: 5 V
* Continuous Total Dissipation
* P_D: 0.25 W (T_a= 25 ℃)

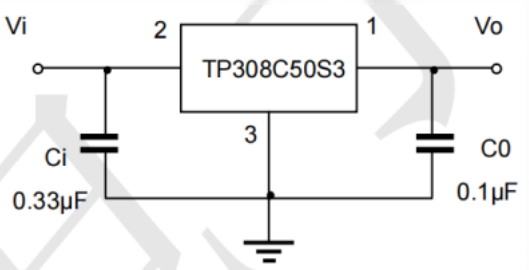
Mechanical Characteristics

* Package: SOT-23
* Lead Finish: Matte Tin
* Case Material: “Green” Molding Compound
* Shipping Qty :3000 /7Inch Tape & Reel

Applications

* PostRegulatorfor SwitchingDC-DCConverter
* BiasSupplyfor Digitaland AnalogCircuits
* HomeAppliances
* actoryand BuildingAutomation

Typical Application



Dimensions and Pin Configuration



1. OUT
2. IN
3. GND

Marking :P8xx

P8= is part number,fixed
xx= is internal code

Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

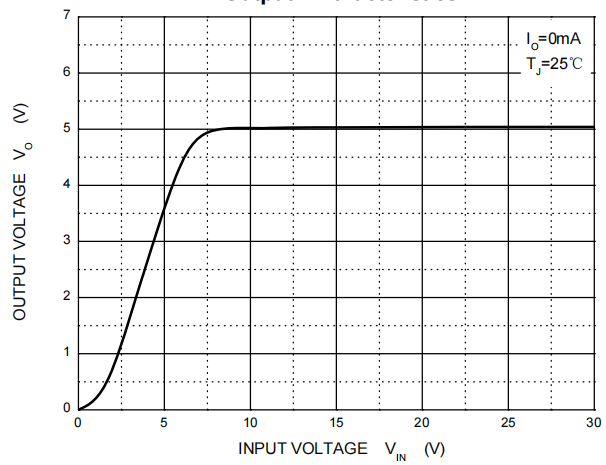
Parameter	Symbol	Value	Unit
Input Voltage	V_I	30	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	160	℃/W
Operating Junction Temperature Range	T_{OPR}	-40~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

Electrical Characteristics (TA=25°C unless otherwise specified)

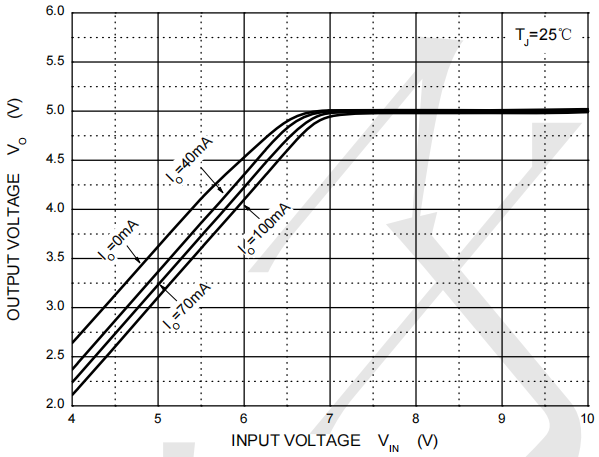
Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Output voltage	Vo		25℃	4.80	5.0	5.20	V
		7V≤Vi≤20V, Io=1mA~40mA	0-125℃	4.75	5.0	5.25	V
		Io=1mA~70mA		4.75	5.0	5.25	V
Load Regulation	ΔVo	Io=1mA~100mA	25℃		15	60	mV
		Io=1mA~40mA	25℃		8	30	mV
Line regulation	ΔVo	7V≤Vi≤20V			32	150	mV
		8V≤Vi≤20V	25℃		26	100	mV
Quiescent Current	Iq		25℃		3.8	6	mA
Quiescent Current Change	ΔIq	8V≤Vi≤20V	0-125℃			1.5	mA
	ΔIq	1mA≤V i≤40mA	0-125℃			0.1	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		42		μV/Vo
Ripple Rejection	RR	8V≤Vi≤20V,f=120Hz	0-125℃	41	49		dB
Dropout Voltage	Vd		25℃		1.7		V

Characteristic Curves

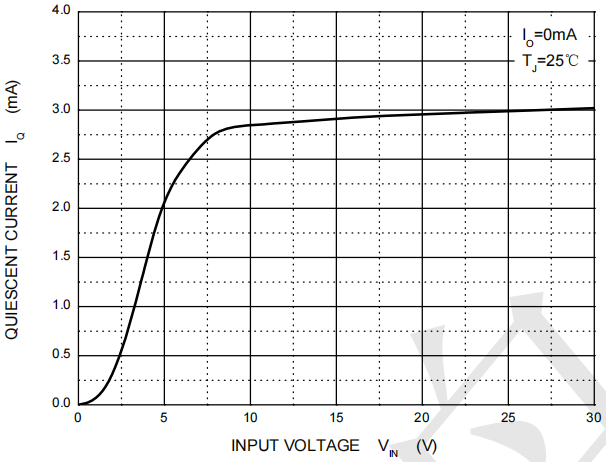
Output Characteristics



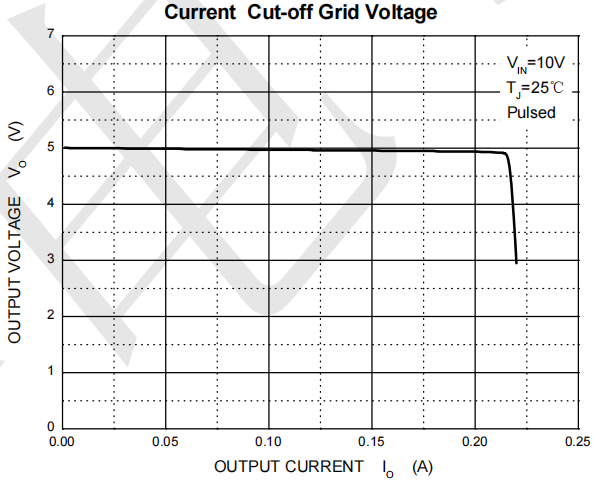
Dropout Characteristics



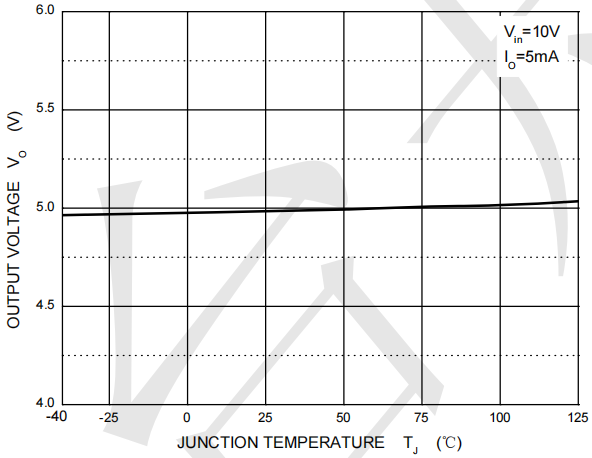
Quiescent Current vs Input Voltage



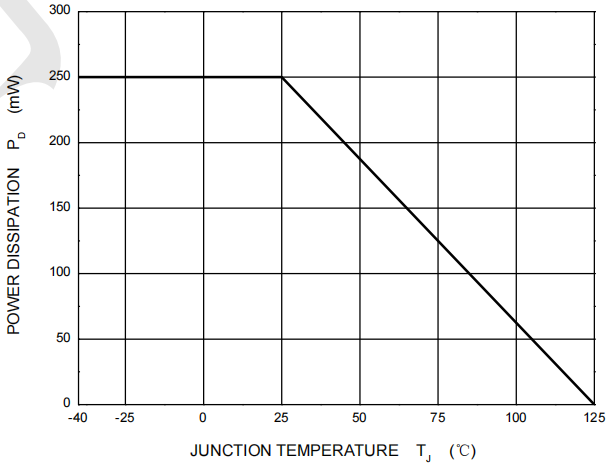
Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve



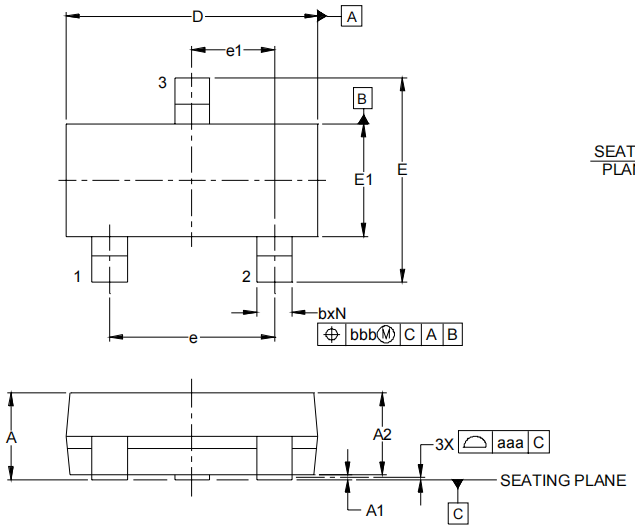
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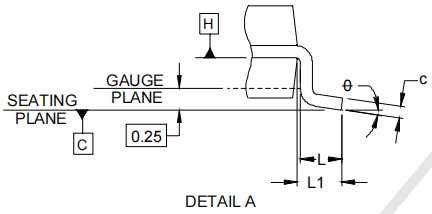
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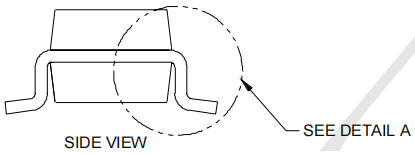
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Outline Drawing - SOT23

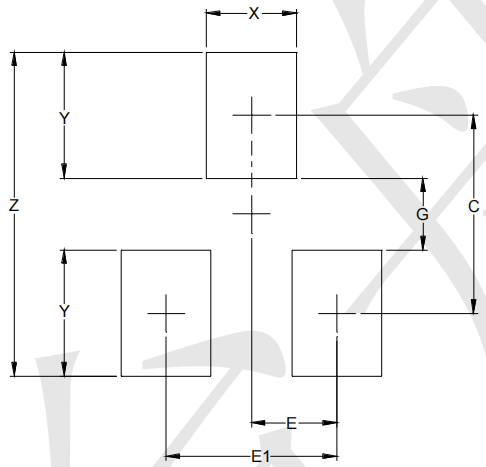






DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.035	-	.044	0.89	-	1.12
A1	.000	-	.004	0.01	-	0.10
A2	.035	.037	.040	0.88	0.95	1.02
b	.012	-	.020	0.30	-	0.51
c	.003	-	.007	0.08	-	0.18
D	.110	.114	.120	2.80	2.90	3.04
E	.082	.093	.104	2.10	2.37	2.64
E1	.047	.051	.055	1.20	1.30	1.40
e	.075			1.90 BSC		
e1	.037			0.95 BSC		
L	.015	.020	.024	0.40	0.50	0.60
L1	.022			(0.55)		
N	3			3		
θ	0°	-	8°	0°	-	8°
aaa	.004			0.10		
bbb	.008			0.20		

Land Pattern - SOT23



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(.087)	(2.20)
E	.037	0.95
E1	.075	1.90
G	.031	0.80
X	.039	1.00
Y	.055	1.40
Z	.141	3.60