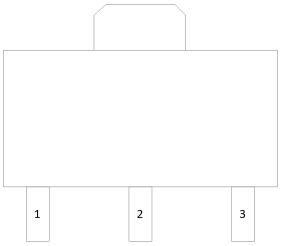
Features

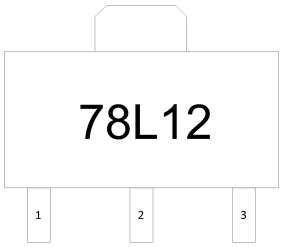
- Output Voltage: 12V
- Maximum Output Current: 0.1A
- Output Transition Safe-Area Compensation

Pin Assignment



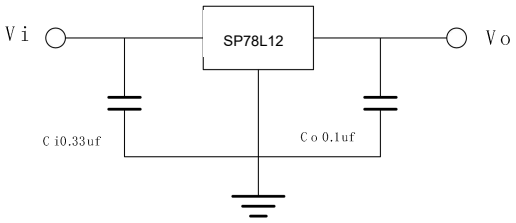
SOT-89-3L(1:OUT 2:GND 3:IN)

Marking



78L12 : Product code

Typical Application



Part number rules

SP78L12①

Designator	Description
①	Package: T8: SOT-89-3

Absolute Maximum Ratings (T_a=25℃ unless otherwise noted)

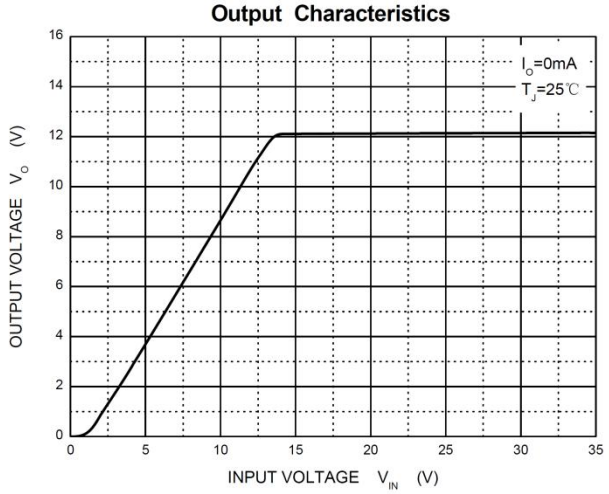
Parameter	Symbol	Value	Unit
Input voltage	V_i	30	V
Thermal Resistance from Junction to Air	$R_{\theta JA}$	166.7	℃/W
Operating Junction Temperature Range	T_{OPR}	-25~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

Electrical Characteristics(Ta=25℃,Vi=10V,Io=500mA,Ci=0.33uF,Co=0.1uF,unless otherwise specified)

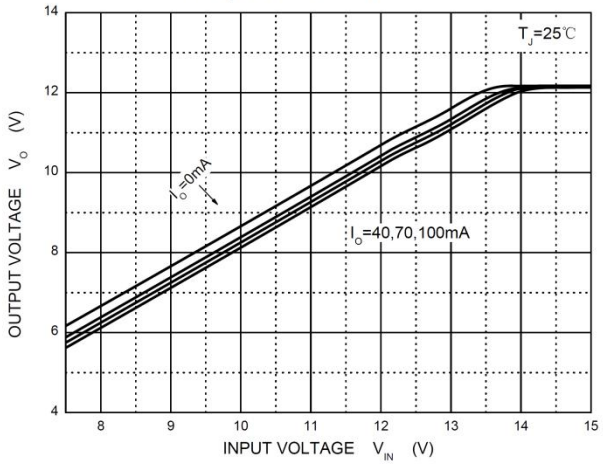
Pa rameter	Symbol	Test conditions		MIN	TYP	MAX	UNIT
Output voltage	Vo		25℃	11.5	12	12.5	V
		14V≤V_I≤27V, Io=1mA-40mA	0-125℃	11.4	12	12.6	V
		Io=1mA-70mA		11.4	12	12.6	V
Load Regulation	△Vo	Io=1mA-100mA	25℃		22	100	mV
		Io=1mA-40mA	25℃		13	50	mV
Line regulation	△Vo	14.5V≤V_I≤27V	25℃		55	250	mV
		16V≤V_I≤27V	25℃		49	200	mV
Quiescent Current	Iq		25℃		4.3	6.5	mA
Quiescent Current Change	△Iq	16V≤V_I≤27V	0-125℃			1.5	mA
	△Iq	1mA≤I_O≤40mA	0-125℃			0.1	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		70		μV/Vo
Ripple Rejection	RR	15V≤V_I≤25V,f=120Hz	0-125℃	37	42		dB
Dropout Voltage	Vd		25℃		1.7		V

Typical Characteristics

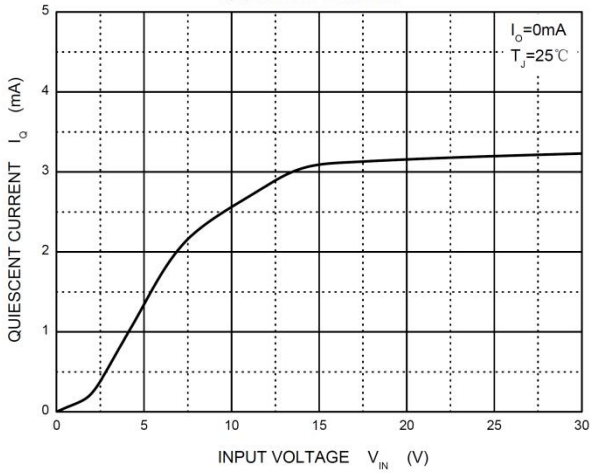
Output Characteristics



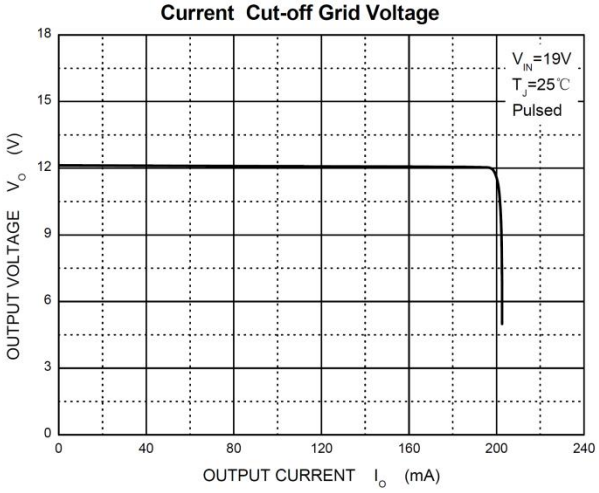
Dropout Characteristics



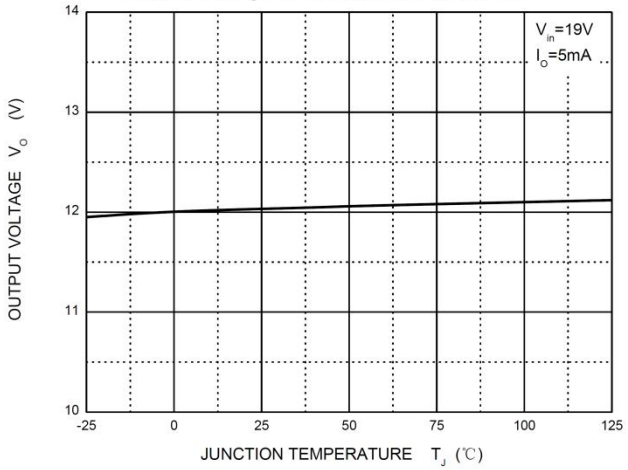
Quiescent Current



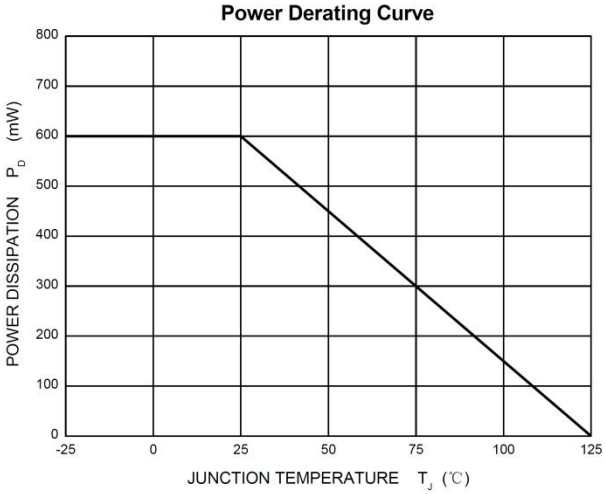
Current Cut-off Grid Voltage



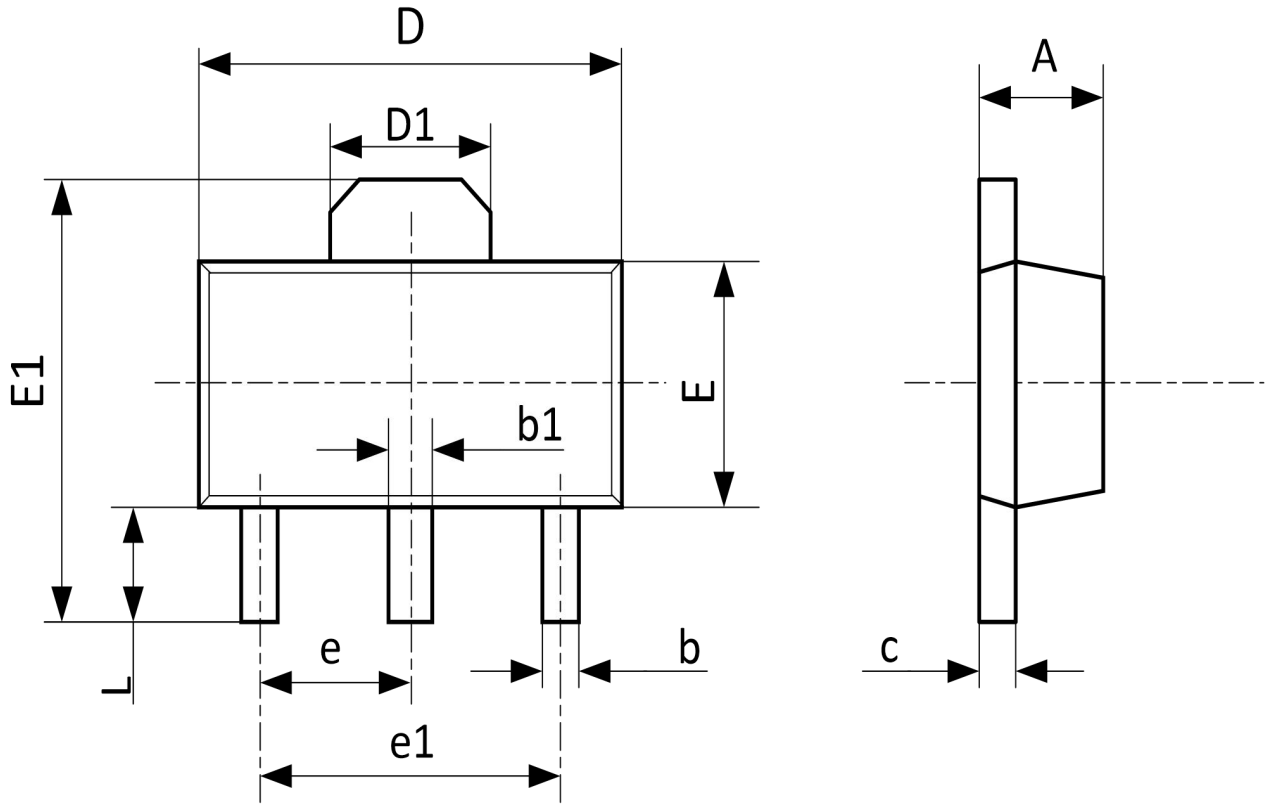
Output Voltage vs Junction Temperature



Power Derating Curve



SOT-89-3L Package Outline



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF		0.061 REF	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP		0.060 TYP	
e1	3.000 TYP		0.118 TYP	
L	0.900	1.200	0.035	0.047