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台舟电子

TP78L12T3
Three-Terminal Voltage Regulator

www.sot23.com.tw

■ Features

Maximum Output current

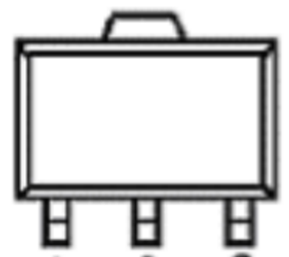
I_{OM}: 0.1 A

Output voltage

V_o: 12 V

Continuous total dissipation

P_D: 0.50 W



1.OUT
2.GND
3.IN

1 2 3

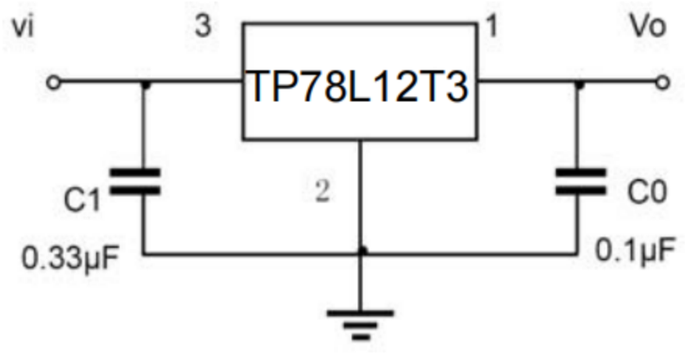
■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Value	Unit
Input Voltage	V_I	35	V
Operating Junction Temperature Range	T_{OPR}	0~+150	℃
Storage Temperature Range	T_{STG}	-55~+150	℃

■ Electrical Characteristics (VI=10V,Io=40mA,0℃<Tj<125℃,C1=0.33μF,Co=0.1μF,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		uV
Ripple Rejection	RR	15V≤V_I≤25V,f=120Hz	0-125℃	37	42		dB
Dropout Voltage	Vd		25℃		1.7		V

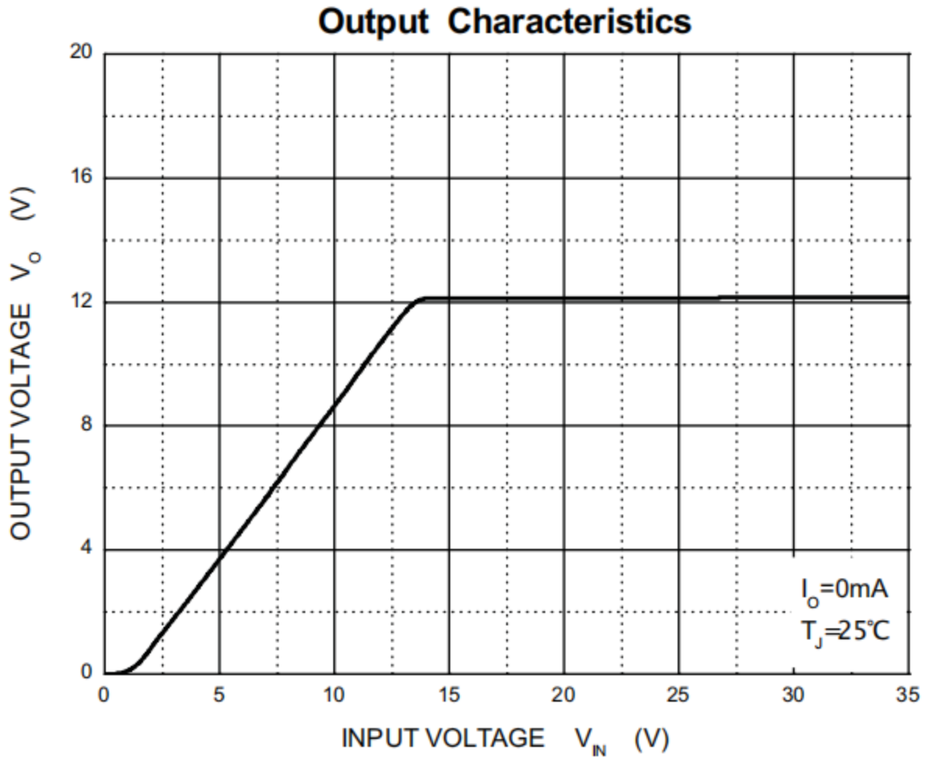
■ Typical application.



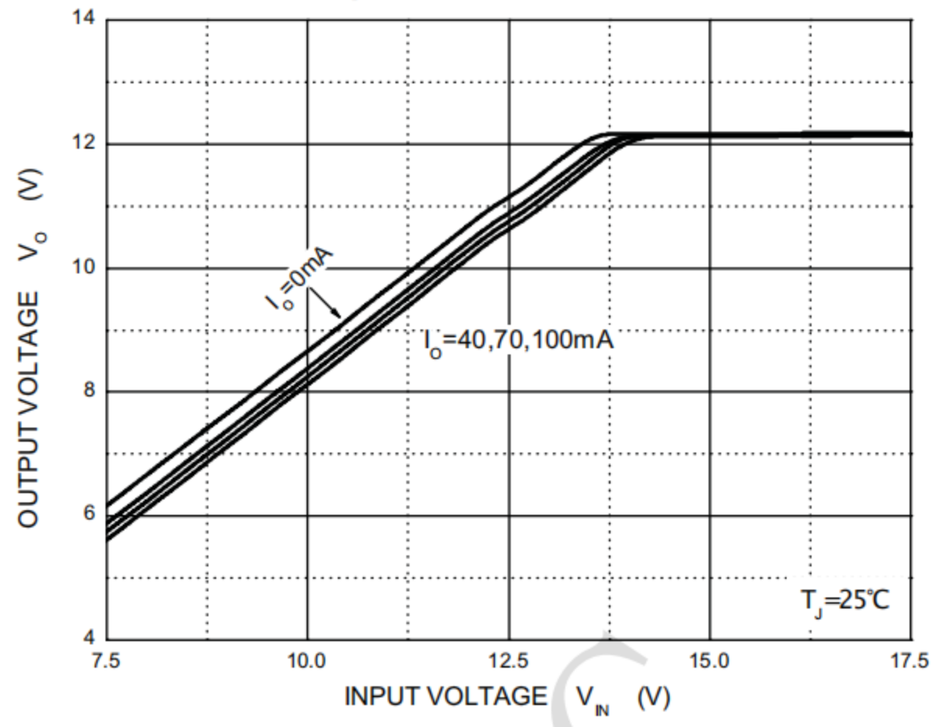
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Typical Electrical Characteristic Curves

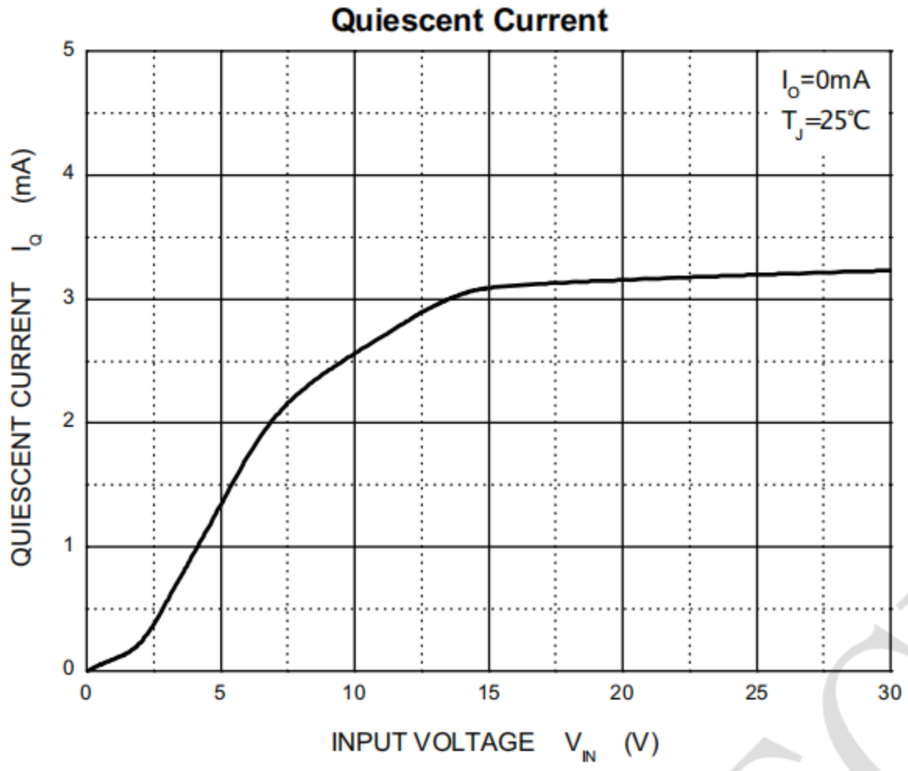
Output Characteristics



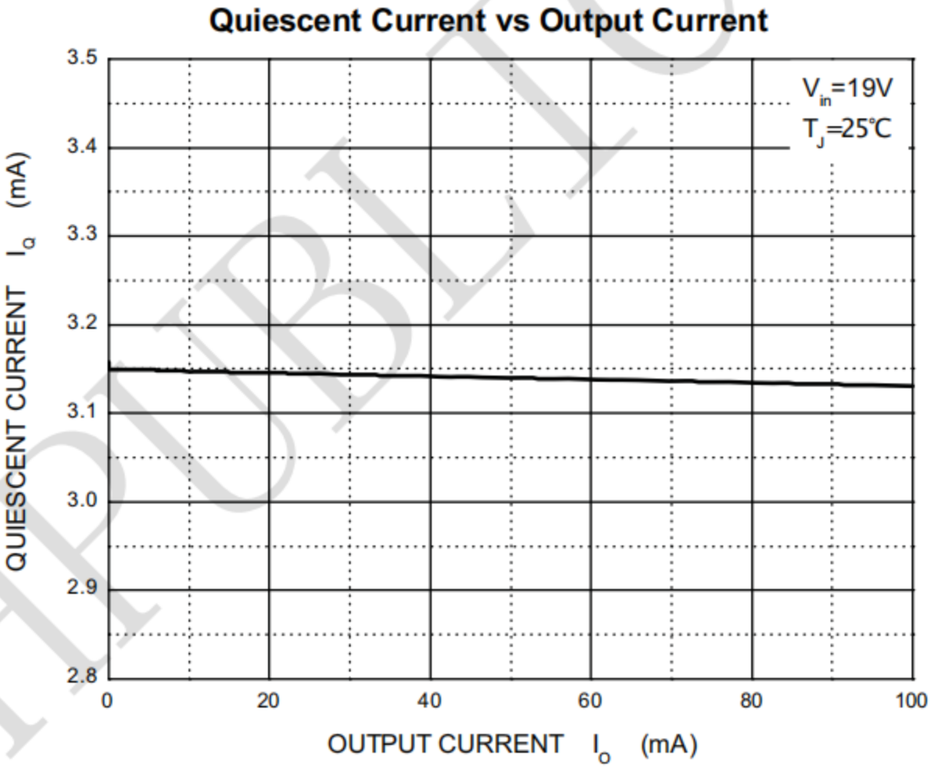
Dropout Characteristics



Quiescent Current



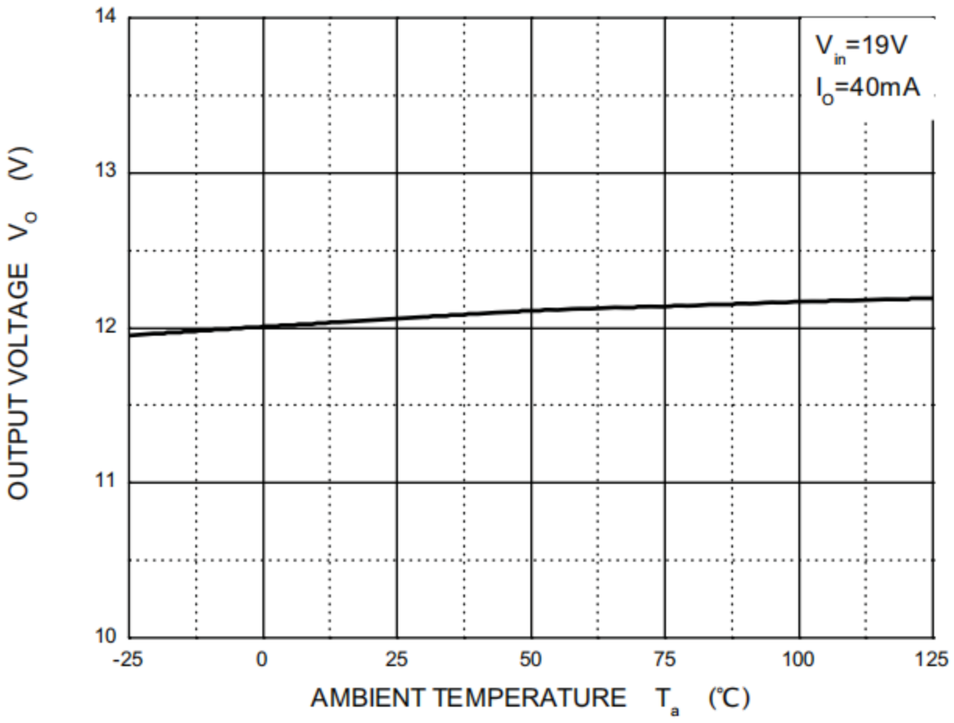
Quiescent Current vs Output Current



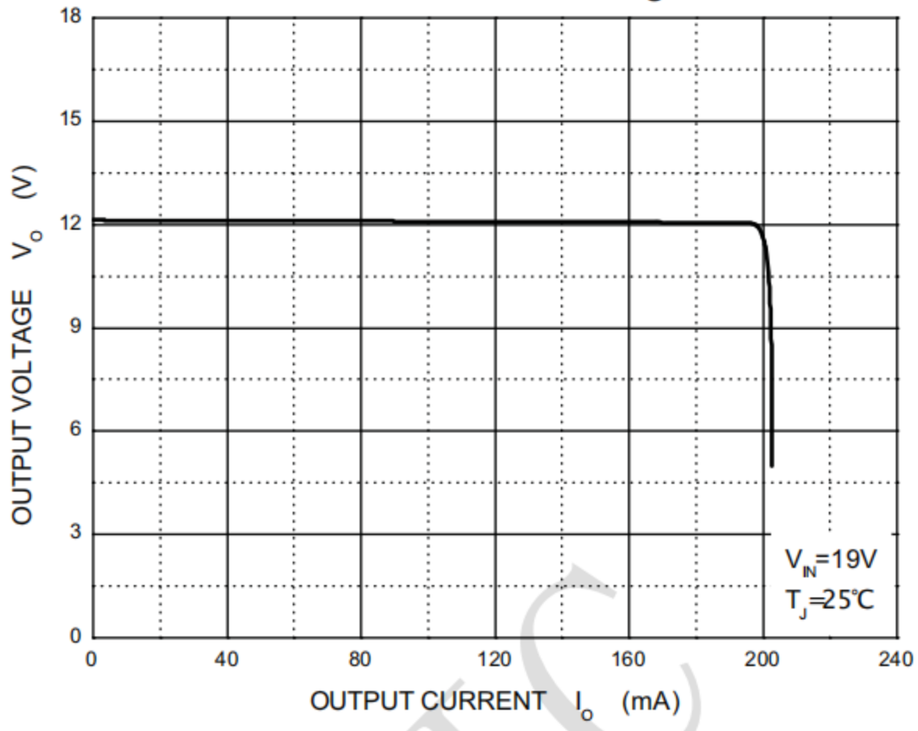
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Typical Electrical Characteristic Curves

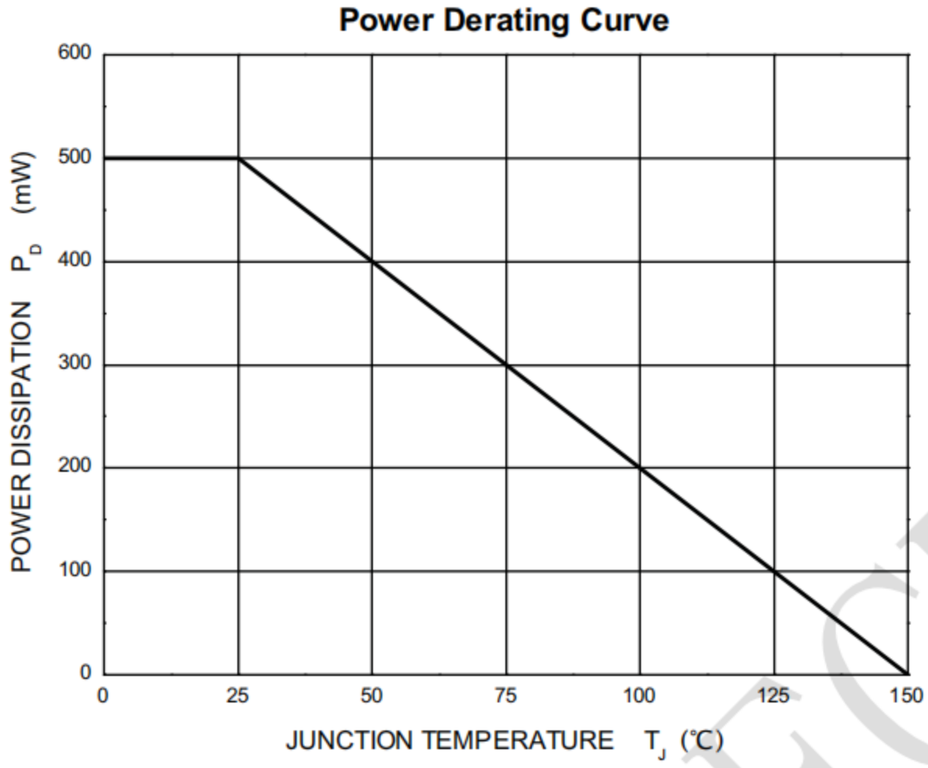
Output Voltage vs Ambient Temperature



Current Cut-off Grid Voltage



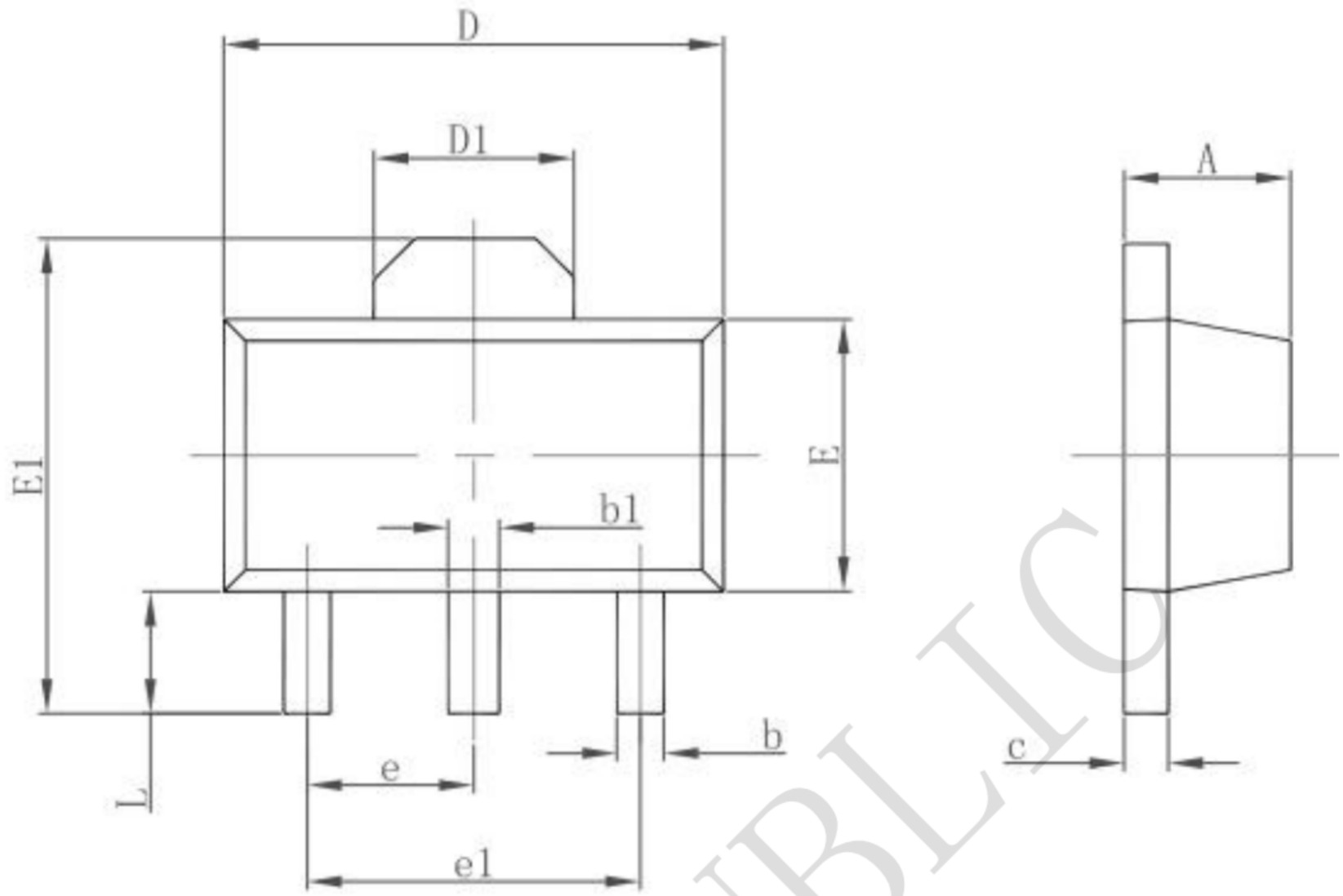
Power Derating Curve



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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	0.320	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

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