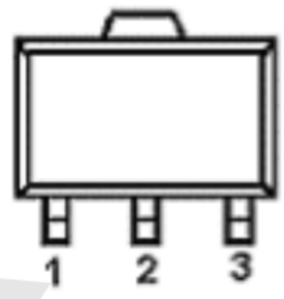
TECH PUBLIC
台舟电子

TP78L05T3
Three-Terminal Voltage Regulator

www.sot23.com.tw

■ Features

- Maximum output current
  I_{OM}: 0.1A
- Output voltage
  V_O: 5V
- Continuous total dissipation
  P_D: 0.6 W (T_a= 25 ℃)



1.OUT
2.GND
3.IN

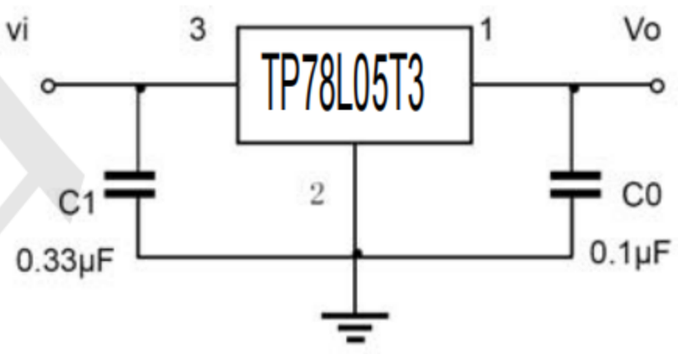
■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	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 (VI=10V,Io=40mA,0℃<Tj<125℃,C1=0.33μF,Co=0.1μF,unless otherwise specified)

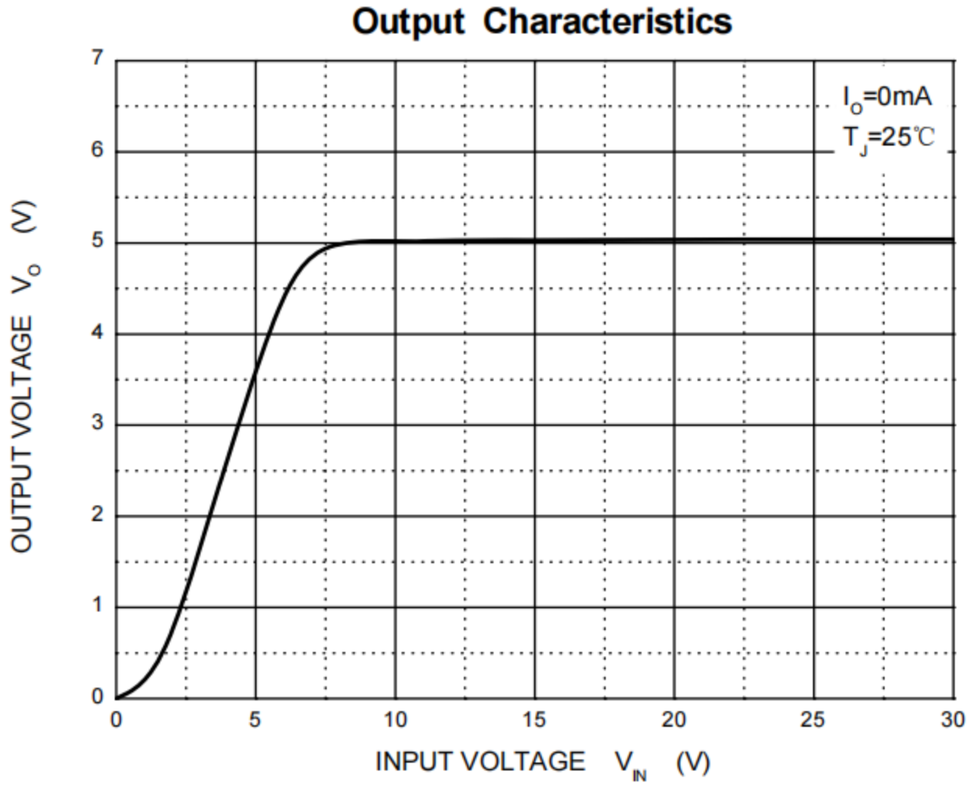
Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Output voltage	Vo		25℃	4.80	5.0	5.20	V
				4.85	5.0	5.15	V
				4.90	5.0	5.10	V
		7V≤Vi≤20V, Io=1mA~40mA	0-125℃	4.75	5.0	5.25	V
		Io=1mA~70mA		4.75	5.0	5.25	V
Load Regulation	ΔVo	Io=1mA~100mA	25℃		15	60	mV
		Io=1mA~40mA	25℃		8	30	mV
Line regulation	ΔVo	7V≤Vi≤20V	0-125℃		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≤Vi≤40mA	0-125℃			0.1	
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

■ Typical application.

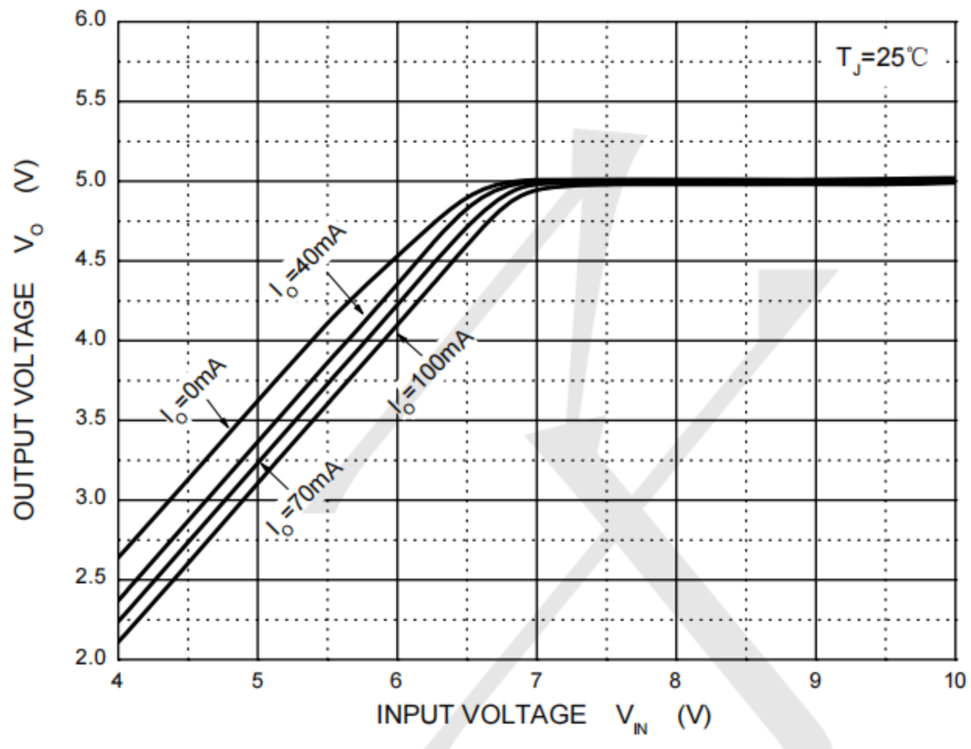


Typical Electrical Characteristic Curves

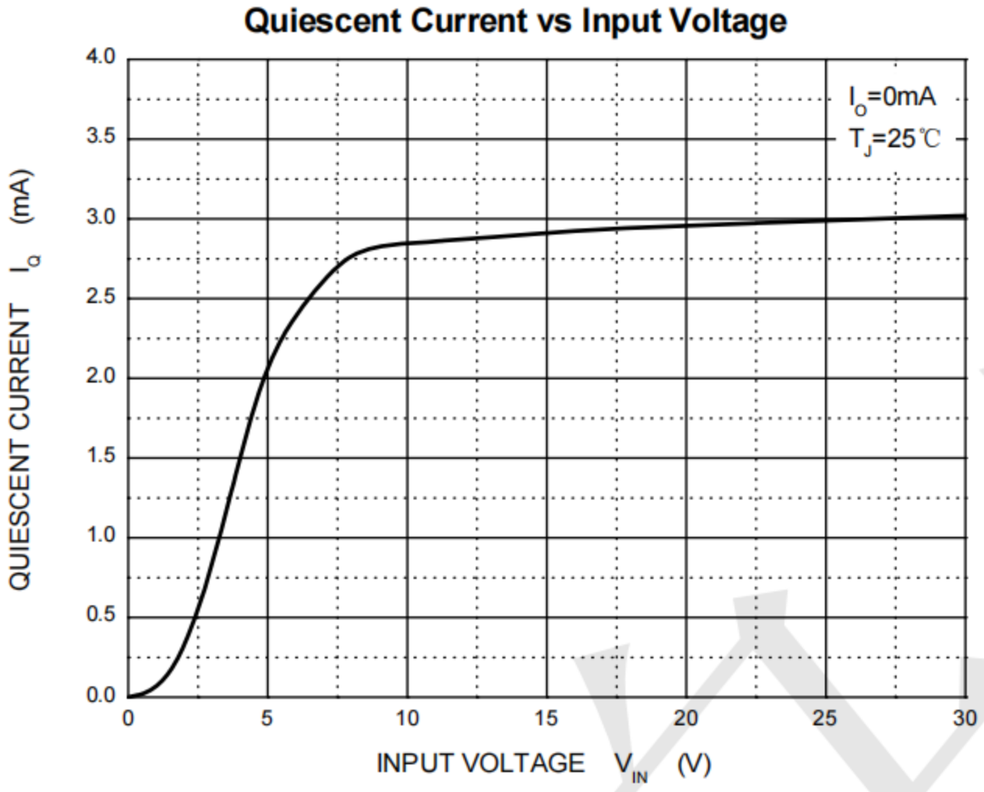
Output Characteristics



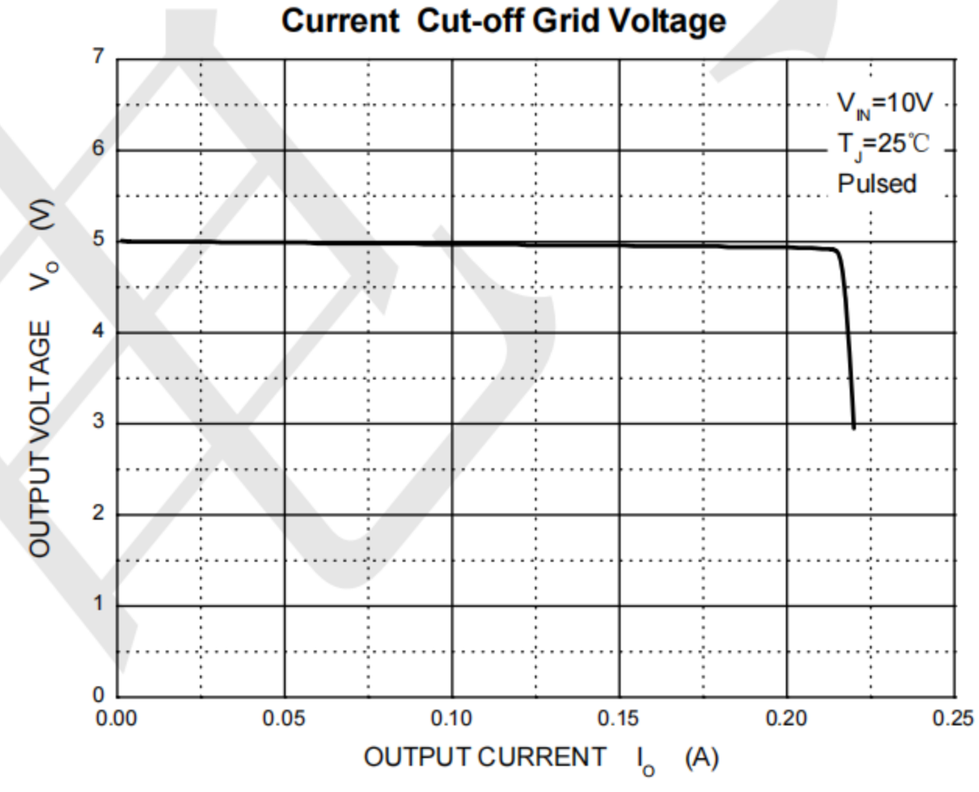
Dropout Characteristics



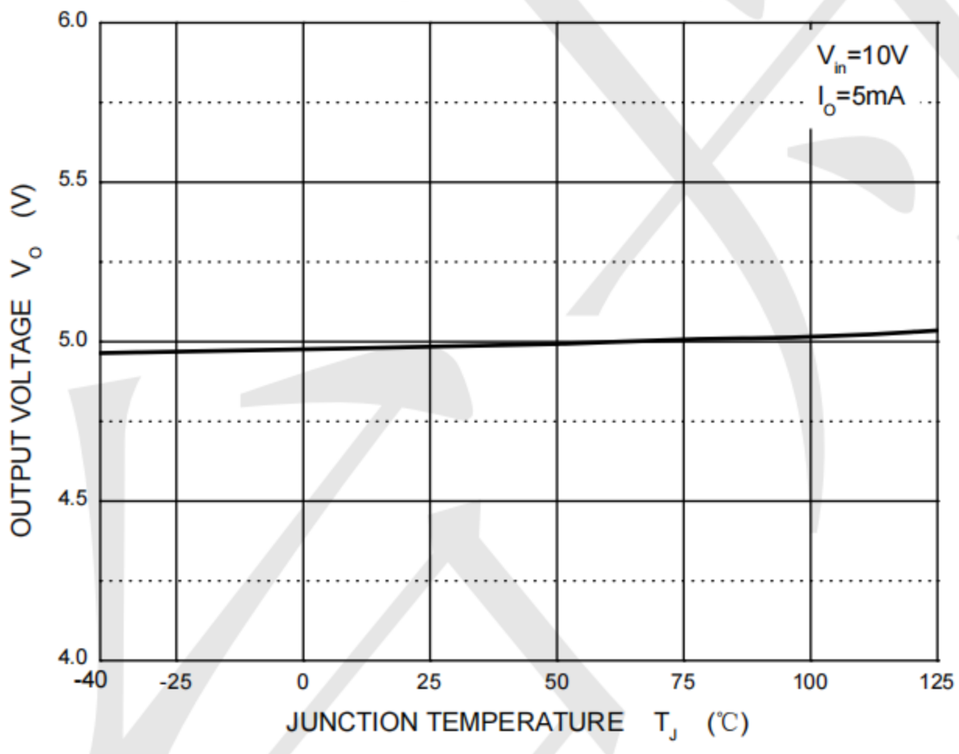
Quiescent Current vs Input Voltage



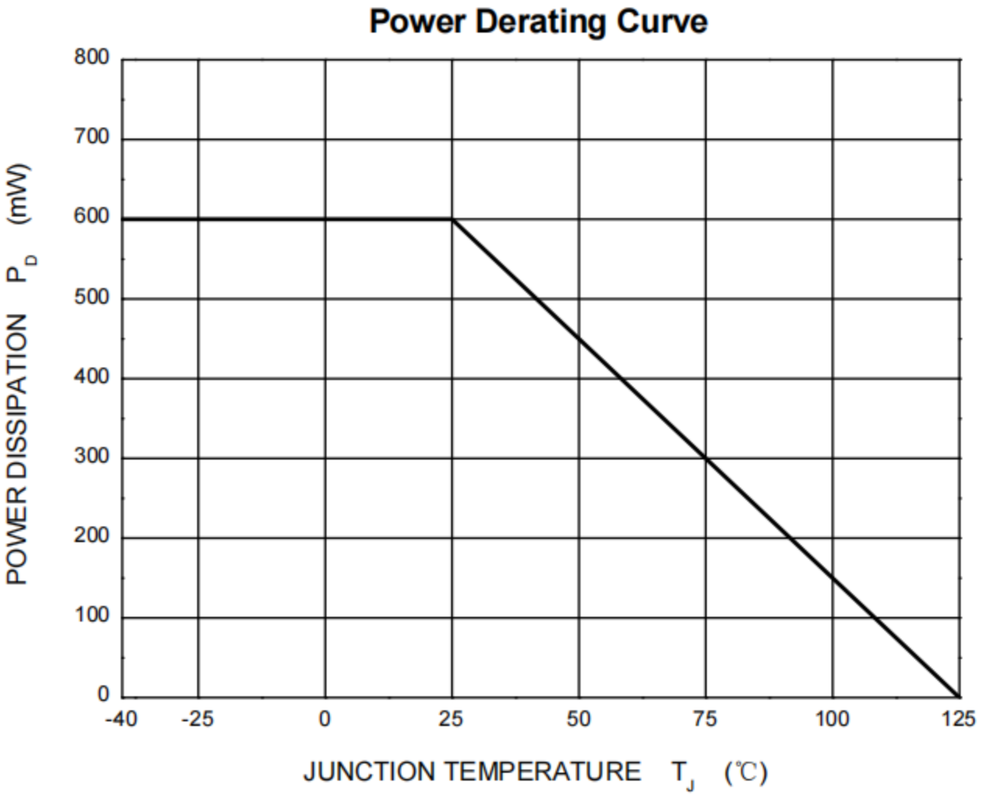
Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature

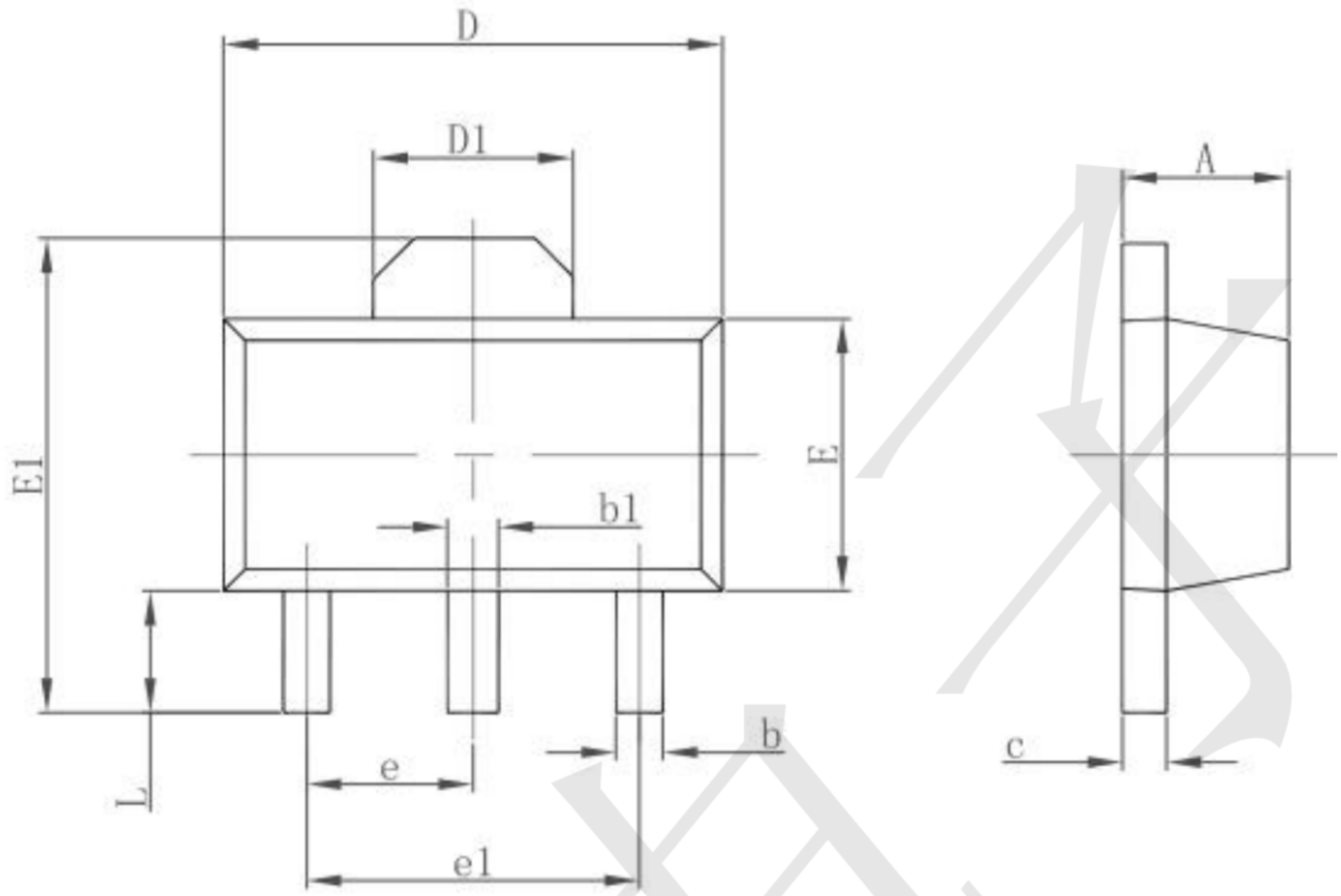


Power Derating Curve



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