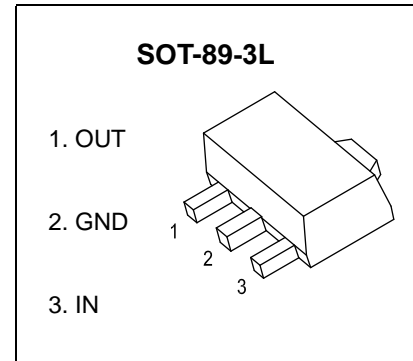


Three-terminal positive voltage regulator

FEATURES

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



ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

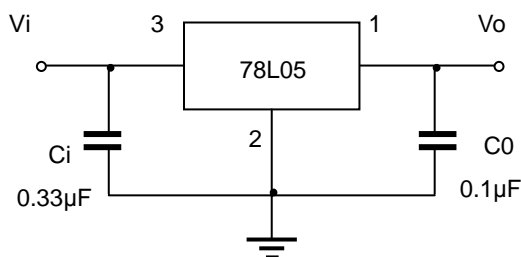
Parameter	Symbol	Value	Unit
Input Voltage	V _i	30	V
Thermal Resistance from Junction to Ambient	R _{θJA}	160	°C/W
Operating Junction Temperature Range	T _{OPR}	-40~+125	°C
Storage Temperature Range	T _{STG}	-65~+150	°C

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE (Vi=10V, Io=40mA, Ci=0.33uF, Co=0.1uF, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V _o	T _J =25 °C	4.85	5.0	5.15	V
			4.90	5.0	5.10	V
		7V ≤ V _i ≤ 20V, I _o =1mA~40mA	4.75	5.0	5.25	V
			I _o =1mA~70mA	4.75	5.0	5.25
Load Regulation	ΔV _o	I _o =1mA~100mA, T _J =25 °C		15	60	mV
		I _o =1mA~40mA, T _J =25 °C		8	30	mV
Line regulation	ΔV _o	7V ≤ V _i ≤ 20V		32	150	mV
		8V ≤ V _i ≤ 20V, T _J =25 °C		26	100	mV
Quiescent Current	I _q	T _J =25 °C		3.8	6	mA
Quiescent Current Change	ΔI _q	8V ≤ V _i ≤ 20V			1.5	mA
	ΔI _q	1mA ≤ V _i ≤ 40mA			0.1	
Output Noise Voltage	V _N	10Hz ≤ f ≤ 100KHz, T _J =25 °C		42		μV/V _o
Ripple Rejection	RR	8V ≤ V _i ≤ 20V, f=120Hz	41	49		dB
Dropout Voltage	V _d	T _J =25 °C		1.7		V

* Pulse test.

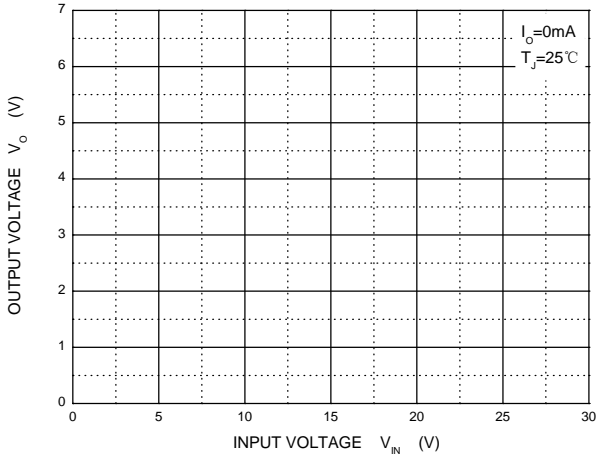
TYPICAL APPLICATION



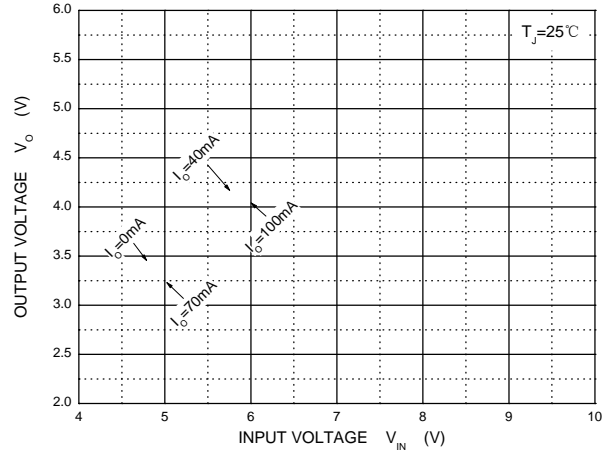
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

Typical Characteristics

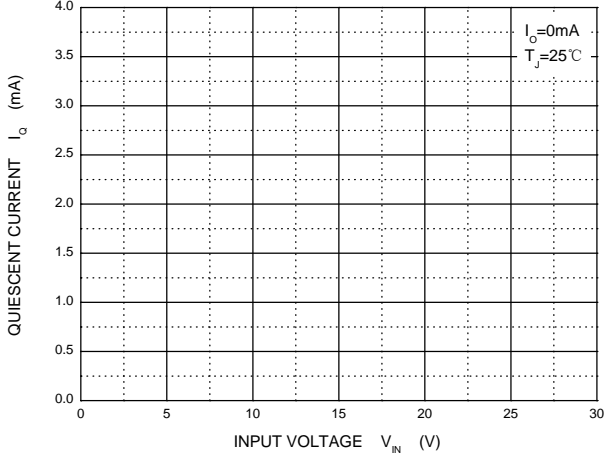
Output Characteristics



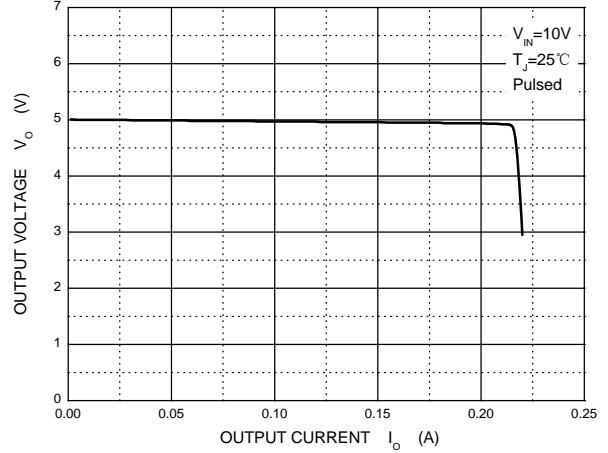
Dropout Characteristics



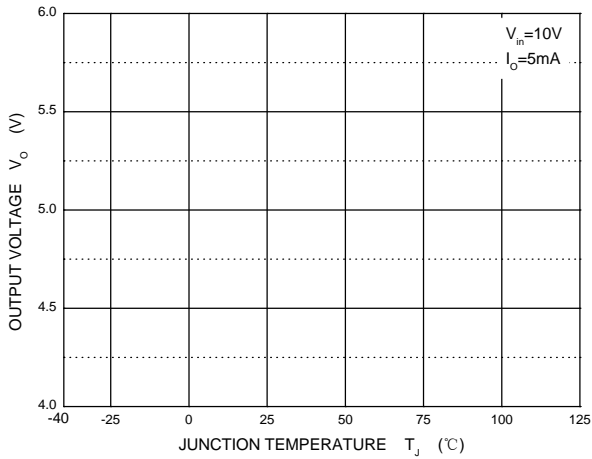
Quiescent Current vs Input Voltage



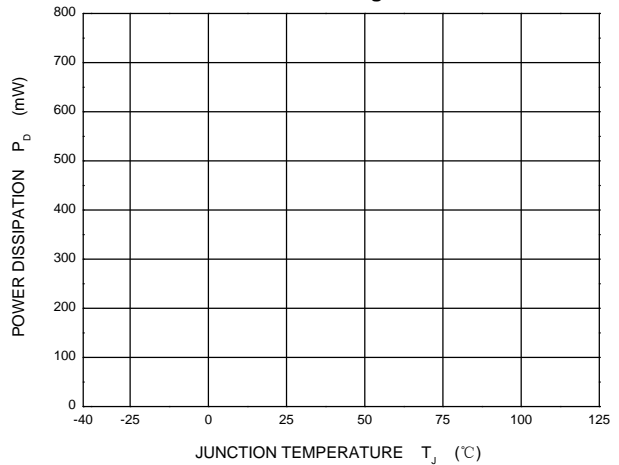
Current Cut-off Grid Voltage



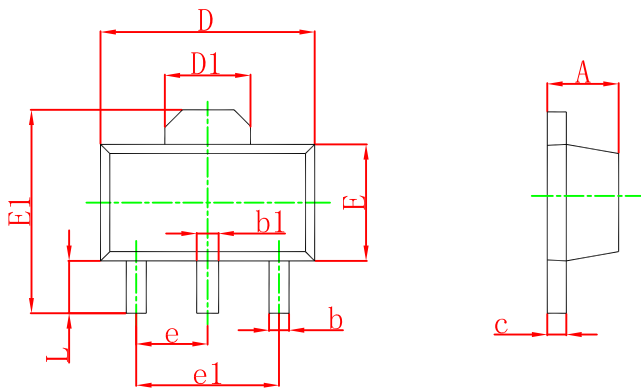
Output Voltage vs Junction Temperature



Power Derating Curve

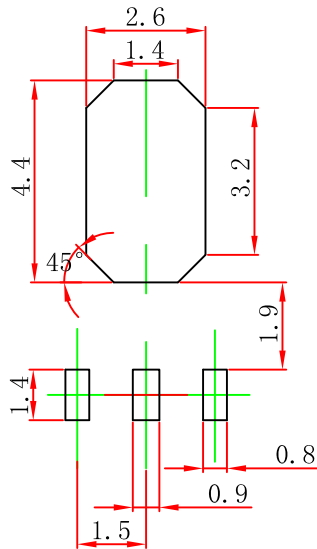


SOT-89-3L Package Outline Dimensions



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

SOT-89-3L Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.