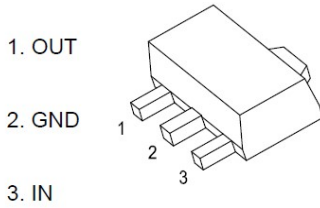


Three-terminal positive voltage regulator

SOT-89-3L



Marking: 78L05

特征 Features

- Maximum output current IOM: 0.1A
- Output voltage Vo: 5V
- Continuous total dissipation PD: 0.6W (Ta=25°C)

机械数据 Mechanical Data

- SOT-89-3L Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

Absolute Maximum Ratings (Operating temperature Range applies unless otherwise specified.)

Parameters	Symbol	Value	Unit
Input Voltage	V_i	30	V
Operating Junction Temperature Range	T_{OPR}	-40-+125	°C
Storage Temperature Range	T_{stg}	-65-+150	°C
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	160	°C/W

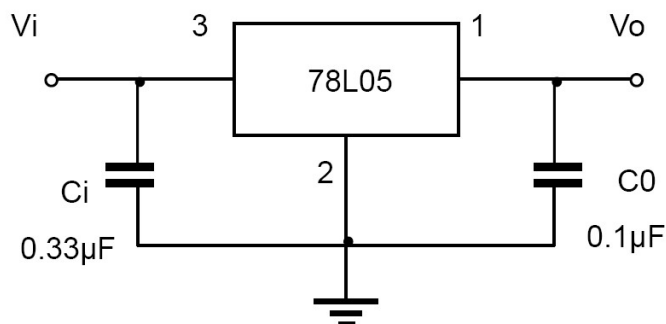
Electrical Characteristics at Specified Virtual Junction Temperature

($V_i=10V$, $I_o=40mA$, $C_i=0.33\mu F$, $C_o=0.1\mu F$, unless otherwise specified.)

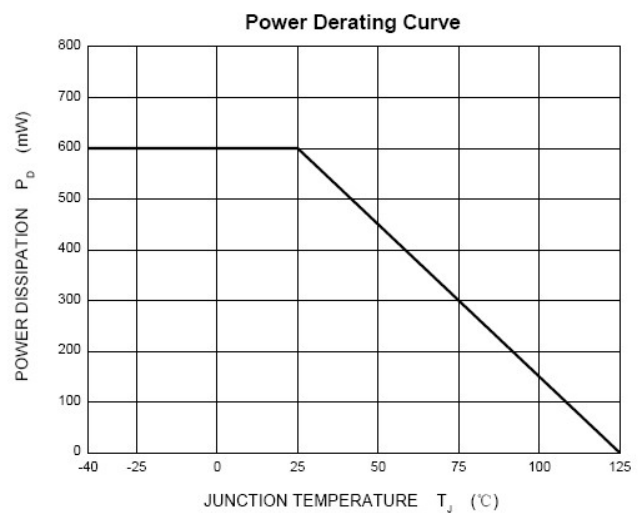
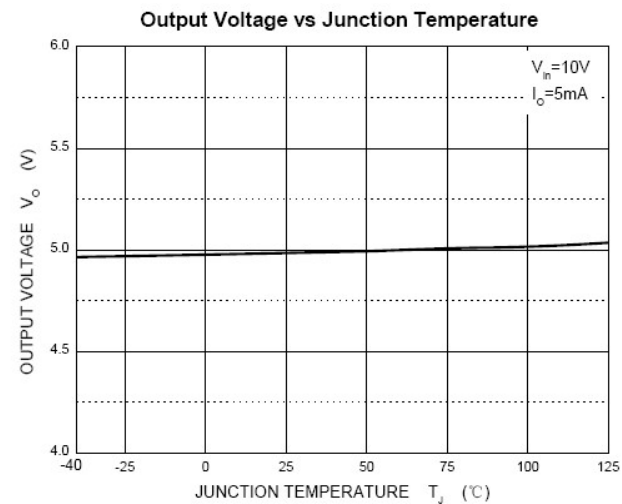
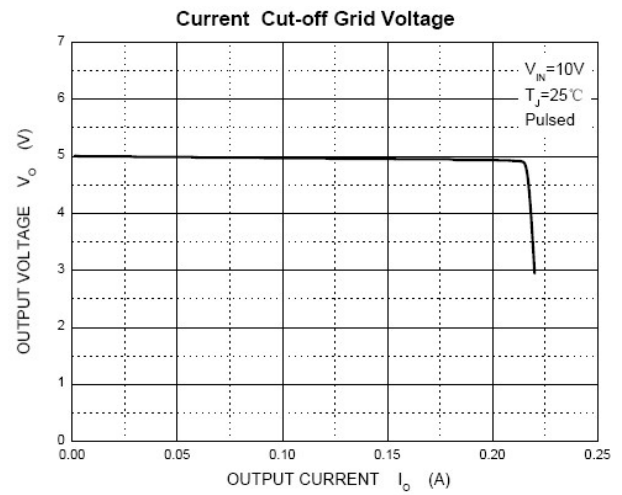
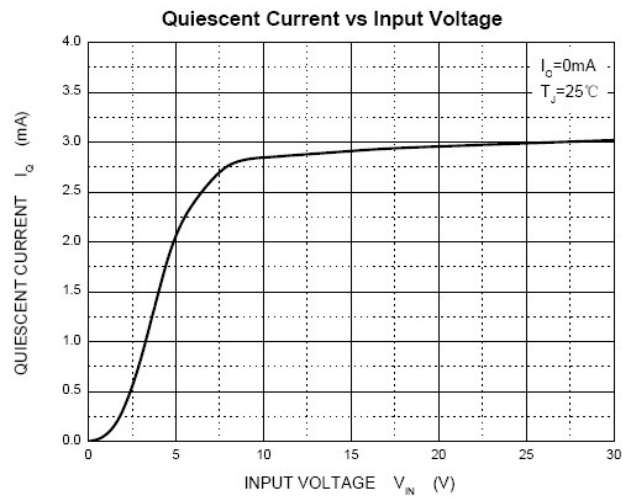
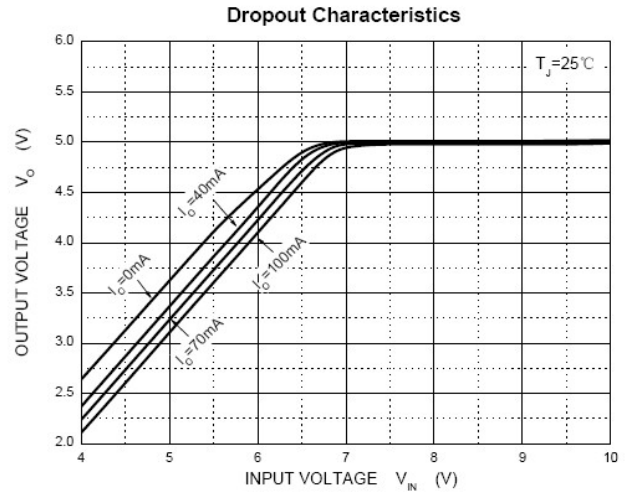
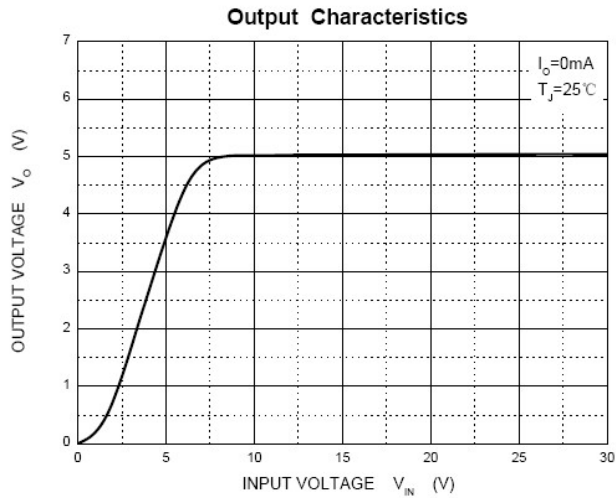
Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Output Voltage	V_o		4.80	5.00	5.20	V
			4.85	5.00	5.15	V
			4.90	5.00	5.10	V
		$7V \leq V_i \leq 20V$, $I_o=1mA \sim 40mA$	4.75	5.00	5.25	V
		$I_o=1mA \sim 70mA$	4.75	5.00	5.25	V
Load Regulation	ΔV_o	$I_o=1mA \sim 100mA$		15	60	mV
		$I_o=1mA \sim 40mA$		8	30	mV
Line Regulation	ΔV_o	$7V \leq V_i \leq 20V$		32	150	mV
		$8V \leq V_i \leq 20V$		26	100	mV
Quiescent Current	I_q	25°C		3.8	6	mA
Quiescent Current Change	ΔI_q	$8V \leq V_i \leq 20V$			1.5	mA
	ΔI_q	$1mA \leq V_i \leq 40mA$			0.1	mA
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$		42		$\mu V/V_o$
Ripple Rejection	RR	$8V \leq V_i \leq 20V, f=120Hz$	41	49		dB
Dropout Voltage	V_d	25°C		1.7		V

* Pulse test.

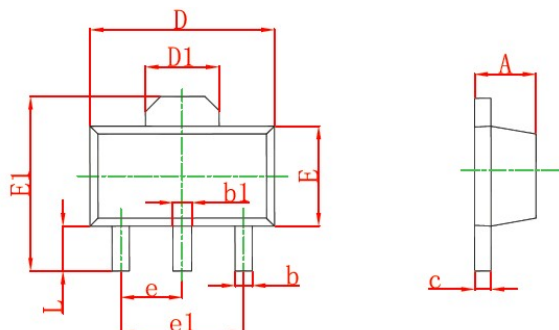
TYPICAL APPLICATION



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

Typical characteristics


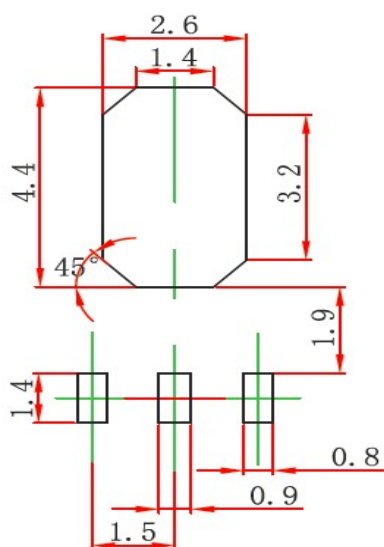
SOT-89-3L PACKAGE OUTLINE Plastic surface mounted package



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

Precautions: PCB Design

Recommended land dimensions for SOT-89-3L diode. Electrode patterns for PCBs



Note:

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

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