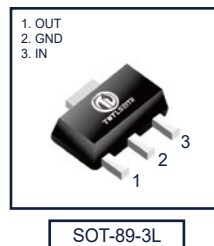


Features

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



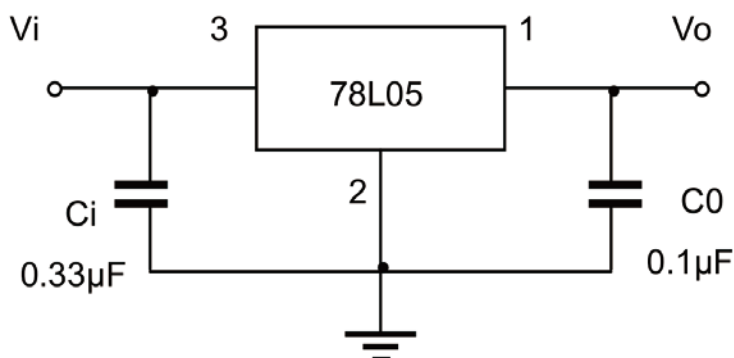
Absolute Maximum Ratings($T_a = 25^\circ\text{C}$)

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

Ordering information

Product ID	Pack	Naming rule	Marking	Qty(PCS)
78L05A	SOT-89-3L	78L05A 产品名称 product name	78L05	1000

TYPICAL APPLICATION



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

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test conditions		Min	Typ	Max	Unit
V_o	Output voltage	$T_j=25^{\circ}\text{C}$		4.85	5.0	5.15	V
		$7\text{V}\leq V_i\leq 20\text{V}$, $I_o=1\text{mA}\sim 40\text{mA}$	$0\sim 125^{\circ}\text{C}$	4.75	5.0	5.25	V
		$I_o=1\text{mA}\sim 70\text{mA}$		4.75	5.0	5.25	V
ΔV_o	Load Regulation	$I_o=1\text{mA}\sim 100\text{mA}$	25°C		15	60	mV
		$I_o=1\text{mA}\sim 40\text{mA}$	25°C		8	30	mV
ΔV_o	Line regulation	$7\text{V}\leq V_i\leq 20\text{V}$	$0\sim 125^{\circ}\text{C}$		32	150	mV
		$8\text{V}\leq V_i\leq 20\text{V}$	25°C		26	100	mV
I_q	Quiescent Current		25°C		3.8	6	mA
ΔI_q	Quiescent Current Change	$8\text{V}\leq V_i\leq 20\text{V}$	$0\sim 125^{\circ}\text{C}$			1.5	mA
ΔI_q		$1\text{mA}\leq I_L\leq 40\text{mA}$	$0\sim 125^{\circ}\text{C}$			0.1	
V_N	Output Noise Voltage	$10\text{Hz}\leq f\leq 100\text{KHz}$	25°C		42		$\mu\text{V}/V_o$
RR	Ripple Rejection	$8\text{V}\leq V_i\leq 20\text{V}$, $f=120\text{Hz}$	$0\sim 125$	41	49		dB
V_d	Dropout Voltage		25°C		1.7		V

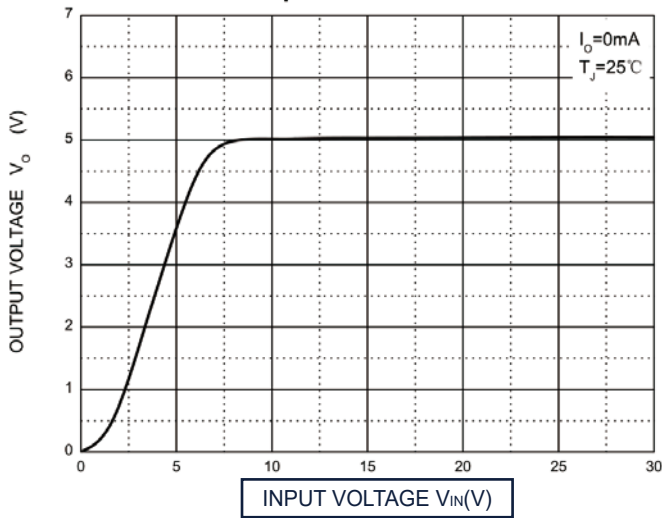
Pin Configuration and Function

PIN NAME	TL-78L05 Series	I / O	DESCRIPTION
	SOT-89-3L		
IN	3	I	Input to the device.
GND	2	-	Regulator ground.
OUT	1	O	Output of the regulator.

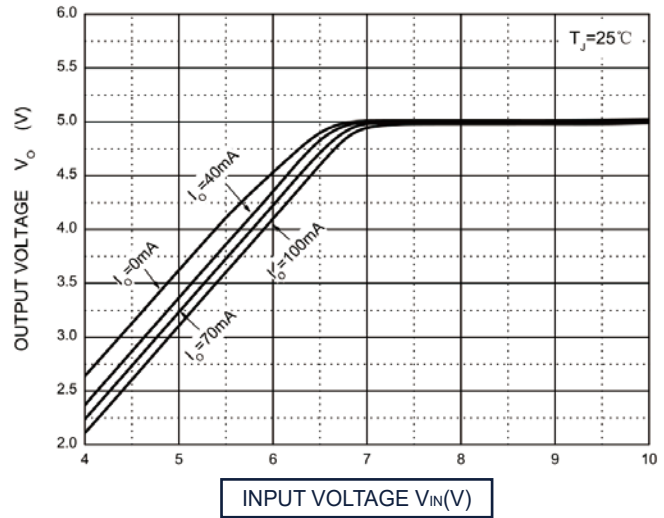


Typical Characteristics

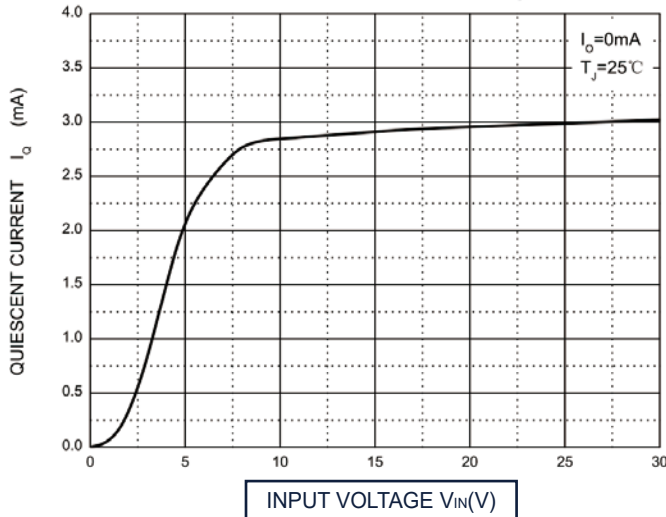
Output Characteristics



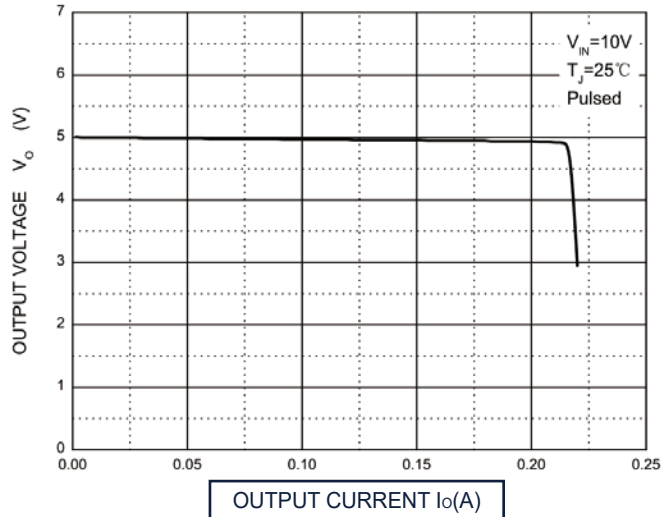
Dropout Characteristics



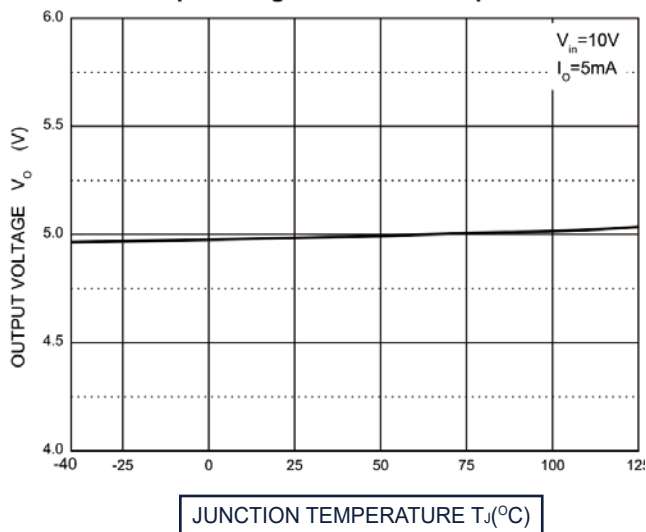
Quiescent Current vs Input Voltage



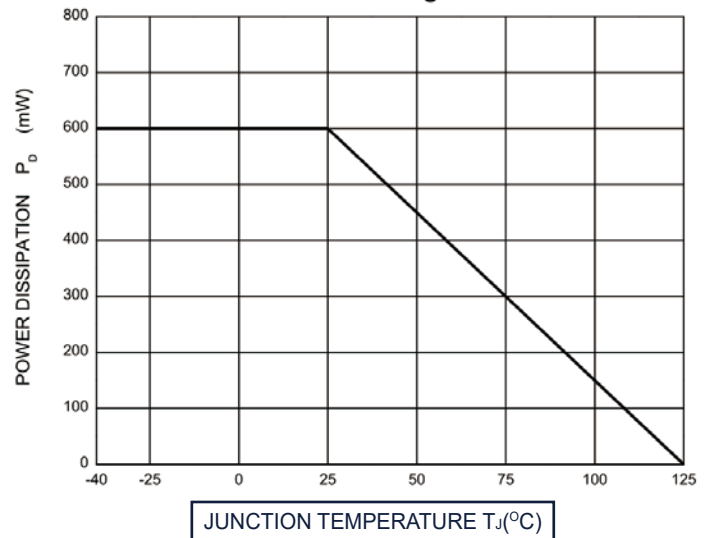
Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature

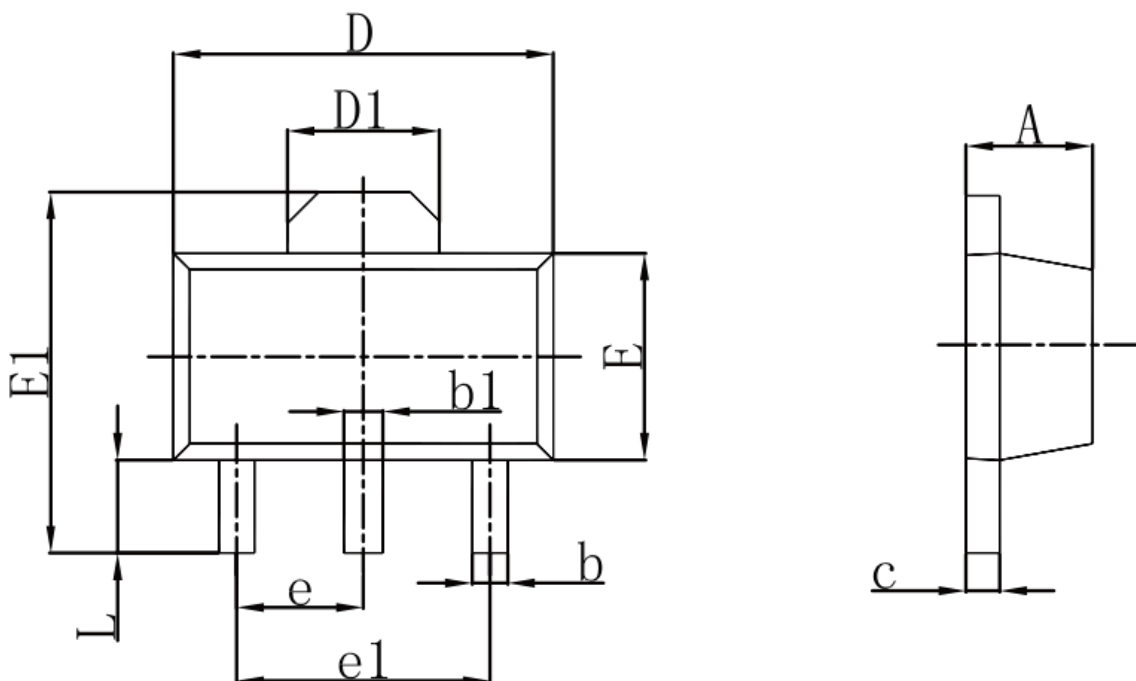


Power Derating Curve





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