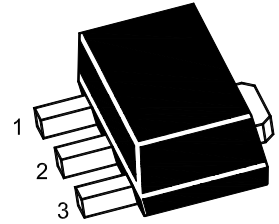


### Features

- Input voltage: up to 35V
- Output voltage: 5V
- Output current up to 100 mA, internal thermal overload protection and short-circuit current limiting.

### SOT-89



1. VOUT 2. GND 3. VIN

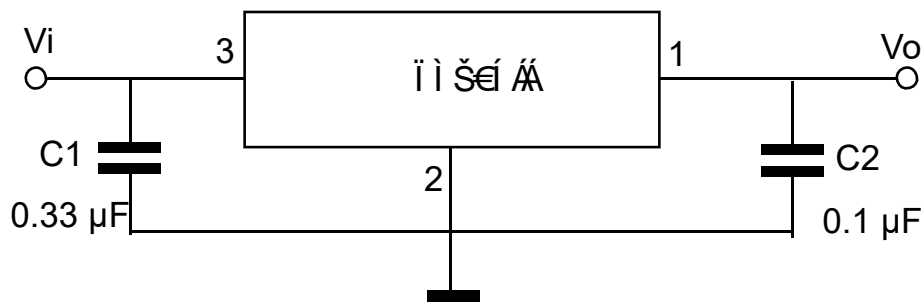
Marking Code : 78L05

### Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Input Voltage	$V_I$	35	V
Output Current	$I_O$	100	mA
Maximum Power Dissipation	$P_D$	350	mW
Thermal Resistance Junction-Air	$R_{\theta JA}$	250	°C/W
Junction Temperature	$T_J$	150	°C
Operating Temperature Range	$T_{OPR}$	-40 to +125	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.



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

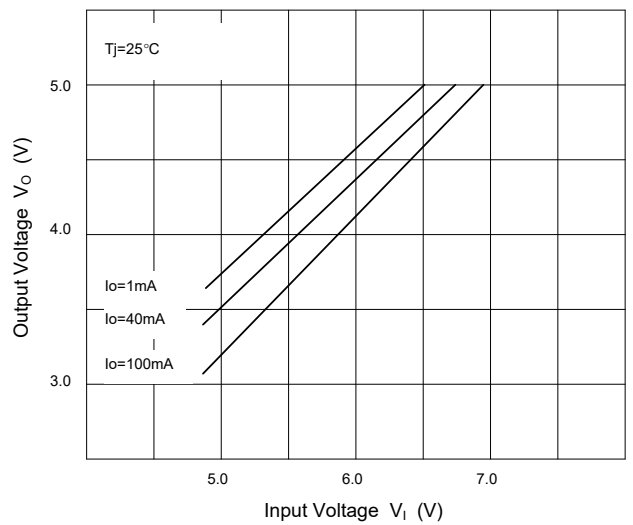
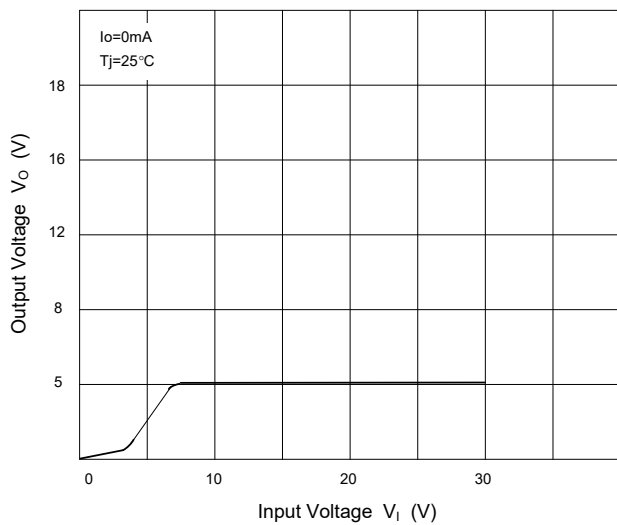
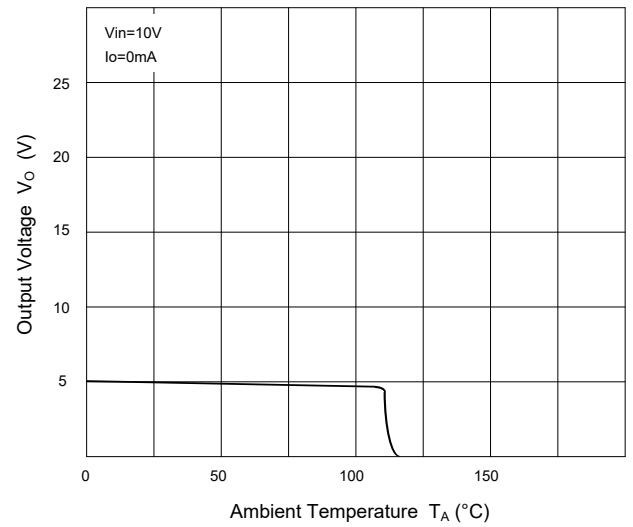
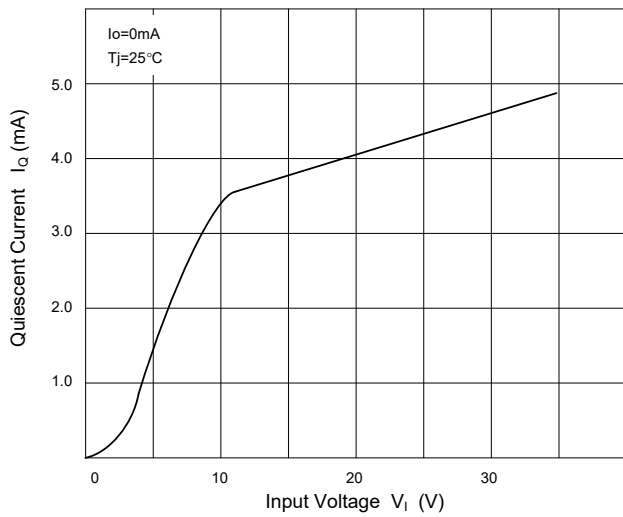
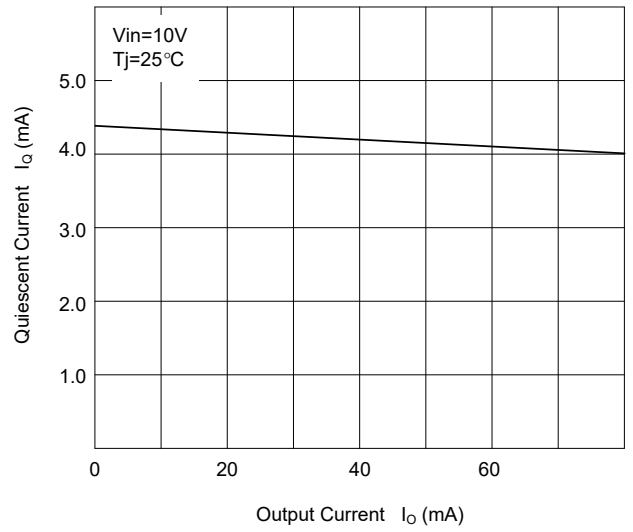
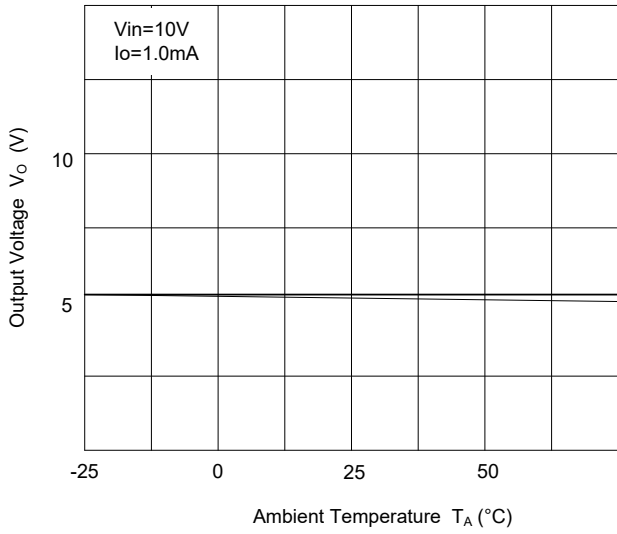
**Electrical Characteristics**

 Ratings at  $0^{\circ}\text{C} \leq T_J \leq 125^{\circ}\text{C}$ ,  $V_I = 10\text{V}$ ,  $I_O = 40\text{mA}$ ,  $C_I = 0.33\mu\text{F}$ ,  $C_O = 0.1\mu\text{F}$ , unless otherwise specified.

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Output Voltage	$V_O$	$T_J = 25^{\circ}\text{C}$	4.80	5.0	5.2	V
		$I_O = 1\text{mA to } 40\text{mA}$ , $V_I = 7\text{V to } 20\text{V}$	4.75	5.0	5.25	V
		$I_O = 1\text{mA to } 70\text{mA}$ , $V_I = 10\text{V}$	4.75	5.0	5.25	V
Line Regulation	$\Delta V_O$	$V_I = 7\text{V to } 20\text{V}$ , $T_J = 25^{\circ}\text{C}$	--	--	150	mV
		$V_I = 8\text{V to } 20\text{V}$ , $T_J = 25^{\circ}\text{C}$	--	--	100	mV
Load Regulation	$\Delta V_O$	$I_O = 1\text{mA to } 100\text{mA}$ , $T_J = 25^{\circ}\text{C}$	--	--	60	mV
		$I_O = 1\text{mA to } 40\text{mA}$ , $T_J = 25^{\circ}\text{C}$	--	--	30	mV
Ripple Rejection	RR	$V_I = 8\text{V to } 20\text{V}$ , $f = 120\text{Hz}$ , $T_J = 25^{\circ}\text{C}$	40	49	--	dB
Dropout Voltage	$V_D$	$T_J = 25^{\circ}\text{C}$	--	1.7	--	V
Quiescent Current	$I_Q$		--	3.8	6	mA
Quiescent Current Change	$\Delta I_Q$	$V_I = 8\text{V to } 20\text{V}$	--	--	1.5	mA
		$I_O = 1\text{mA to } 40\text{mA}$	--	--	0.1	mA
Output Noise Voltage	$V_N$	$10\text{Hz} \leq f \leq 100\text{KHz}$ , $T_J = 25^{\circ}\text{C}$	--	42	--	$\mu\text{V}$



Typical Characteristic Curves

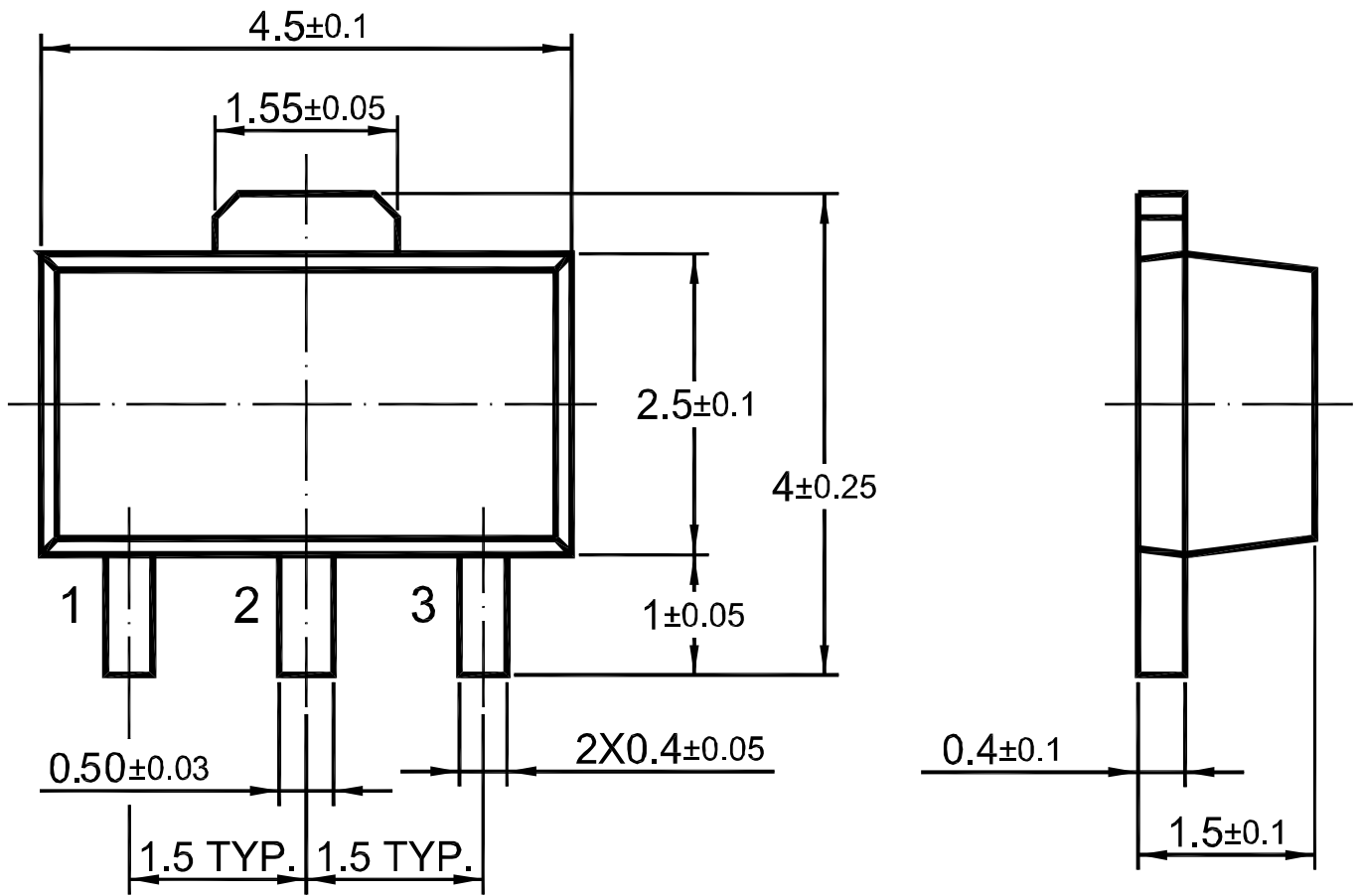




Package Outline

SOT-89

Dimensions in mm



Ordering Information

Device	Package	Shipping
78L05	SOT-89	1,000PCS/Reel&7inches
		3,000PCS/Reel&13inches