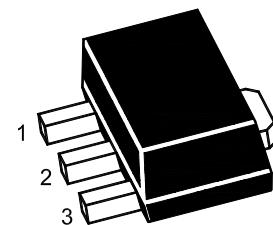




## Features

- Input voltage: up to 35V
- Output voltage: 5V
- Output current up to 200 mA, internal thermal overload protection and short-circuit current limiting.

**SOT-89**



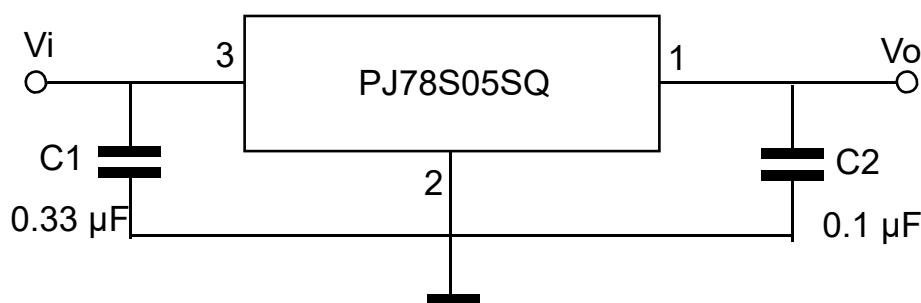
1. VOUT 2. GND 3. VIN

**Marking Code : 78S05**

## Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Input Voltage	$V_I$	35	V
Output Current	$I_O$	200	mA
Maximum Power Dissipation	$P_D$	500	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





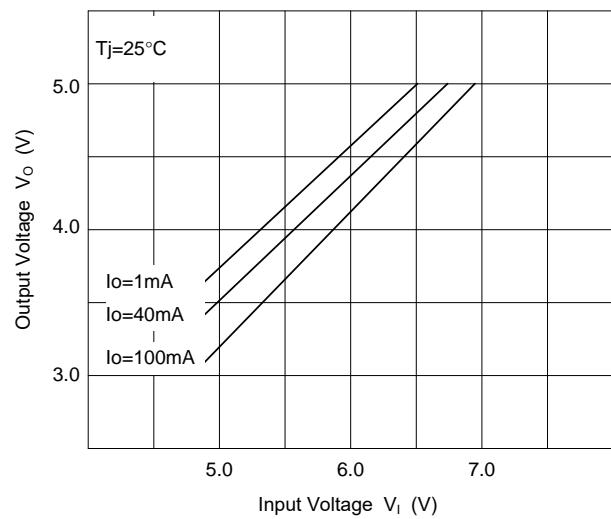
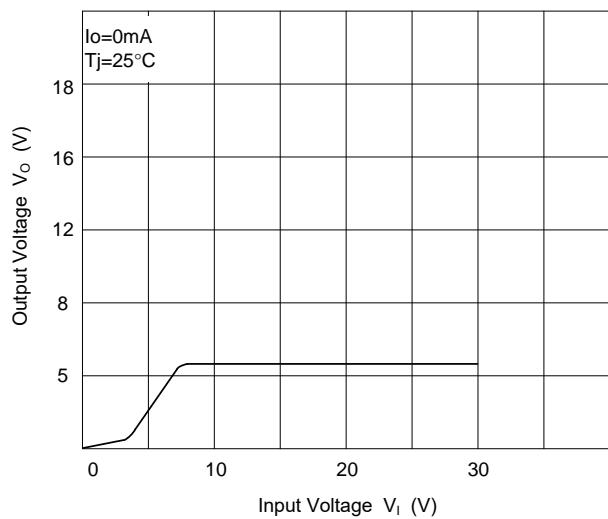
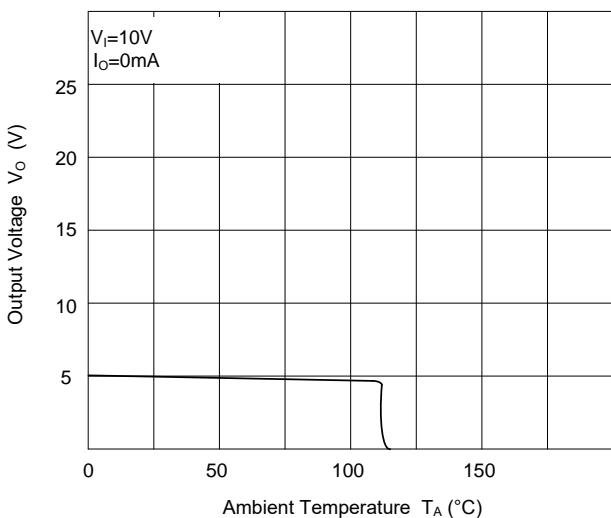
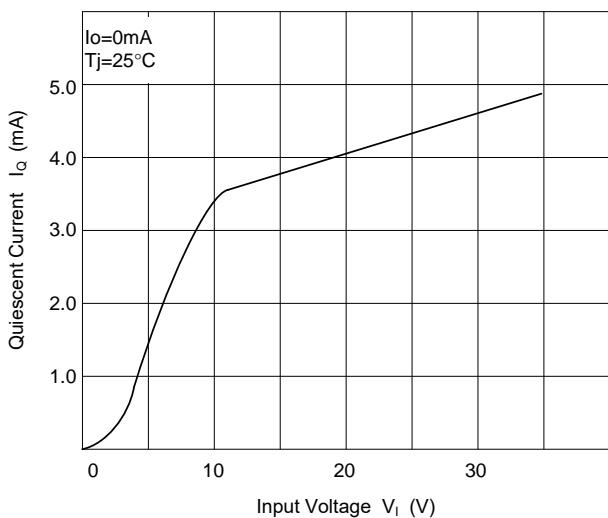
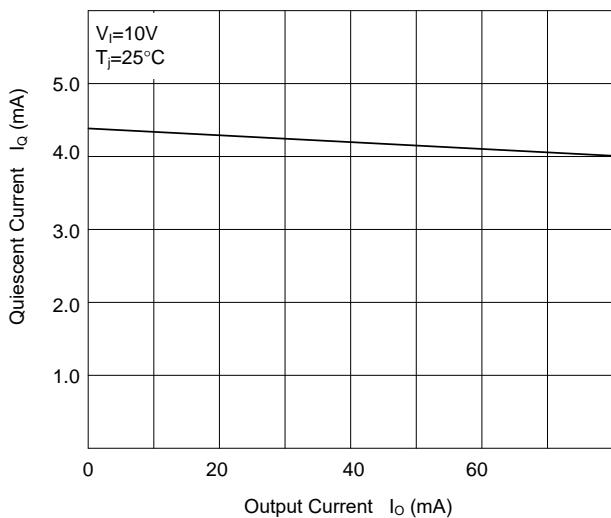
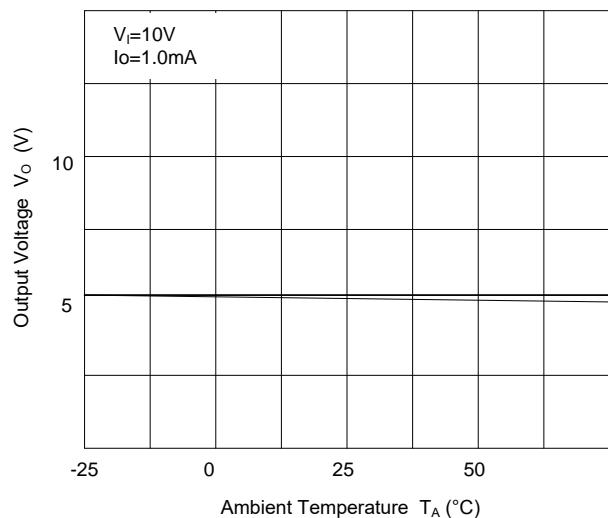
### Electrical Characteristics

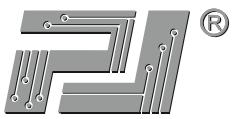
Ratings at  $0^{\circ}\text{C} \leq T_J \leq 125^{\circ}\text{C}$ ,  $V_i = 10\text{V}$ ,  $I_o = 40\text{mA}$ ,  $C_i = 0.33\mu\text{F}$ ,  $C_o = 0.1\mu\text{F}$ , unless otherwise specified.

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	$\Delta V_o$	$V_i = 7\text{V to } 20\text{V}$ , $T_J = 25^{\circ}\text{C}$	--	8	150	mV
		$V_i = 8\text{V to } 20\text{V}$ , $T_J = 25^{\circ}\text{C}$	--	6	100	mV
Load Regulation	$\Delta V_o$	$I_o = 1\text{mA to } 100\text{mA}$ , $T_J = 25^{\circ}\text{C}$	--	11	60	mV
		$I_o = 1\text{mA to } 40\text{ mA}$ , $T_J = 25^{\circ}\text{C}$	--	5	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	$I_Q$		--	2	5.5	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	$V_N$	$10\text{Hz} \leq f \leq 100\text{KHz}$	--	40	--	$\mu\text{V}$



## Typical Characteristic Curves

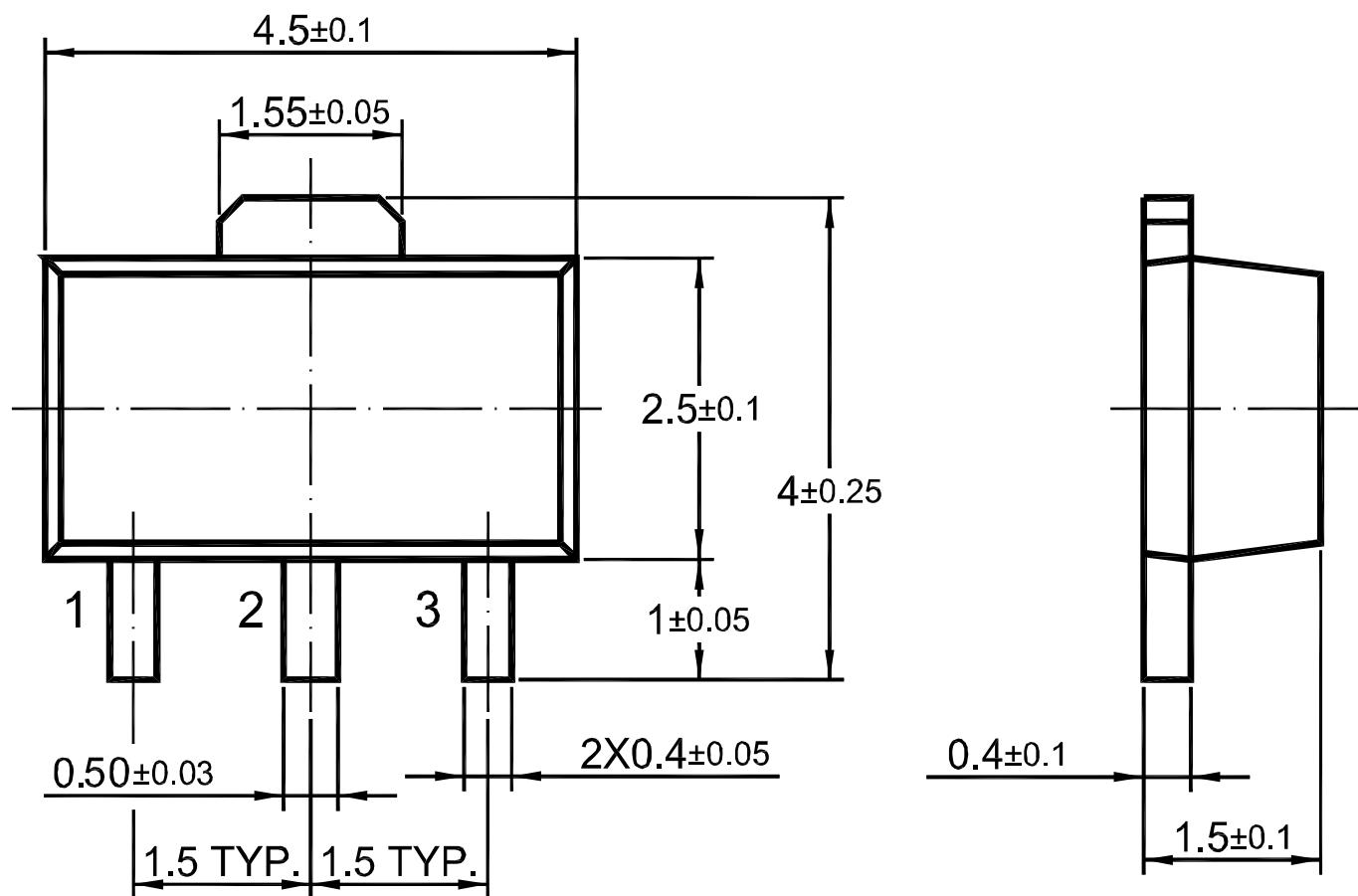




### Package Outline

SOT-89

Dimensions in mm



### Ordering Information

Device	Package	Shipping
PJ78S05SQ	SOT-89	1,000PCS/Reel&7inches
		3,000PCS/Reel&13inches