



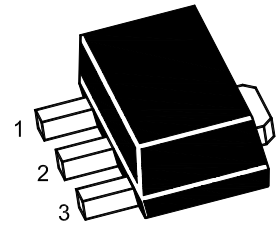
# PJ78L12SQ

## 3-Terminal Voltage Regulator

### Features

- Input voltage: up to 35V
- Output: 12V
- Output current up to 100 mA, internal thermal overload protection and short-circuit limiting.

### SOT-89



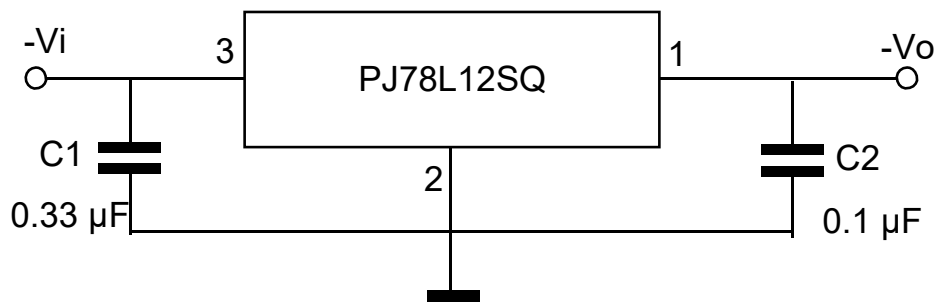
1. OUT 2. GND 3. IN

Marking Code : 78L12

### Absolute Maximum Ratings

Ratings at  $T_A = 25^\circ\text{C}$  ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Input Voltage	$V_I$	35	V
Output Current	$I_O$	100	mA
Maximum Power Dissipation	$P_D$	500	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Operating Temperature Range	$T_{OPR}$	-40 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ\text{C}$





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## 3-Terminal Voltage Regulator

### Electrical Characteristics

Ratings at  $T_A = 25^\circ\text{C}$  ambient temperature,  $0^\circ\text{C} \leq T_J \leq 125^\circ\text{C}$   $V_I = 19\text{V}$ ,  $I_O = 40\text{mA}$ ,  $C_I = 0.33\mu\text{F}$ ,  $C_O = 0.1\mu\text{F}$ , unless otherwise specified.

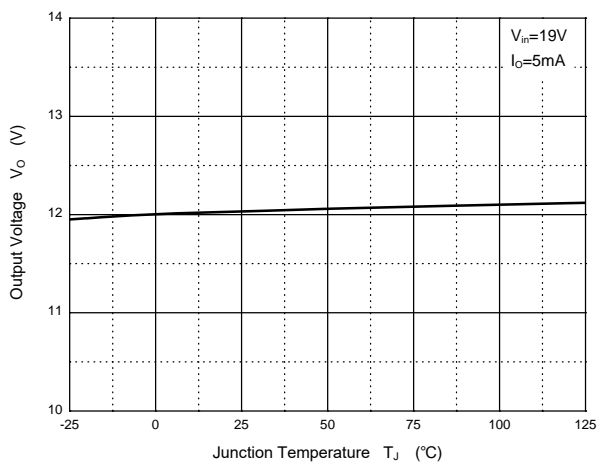
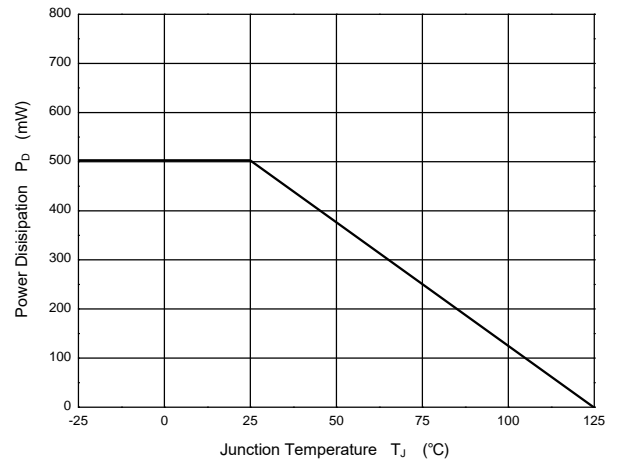
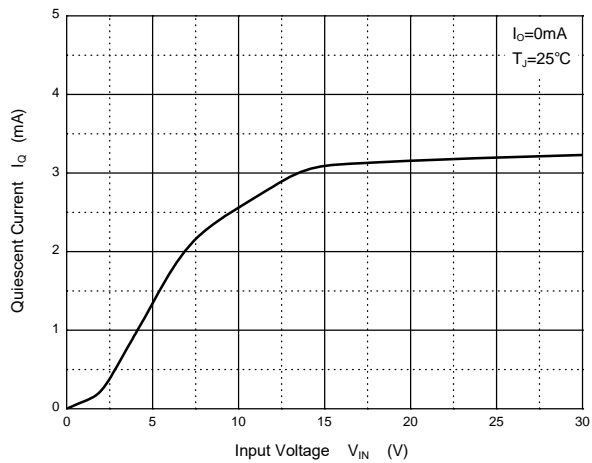
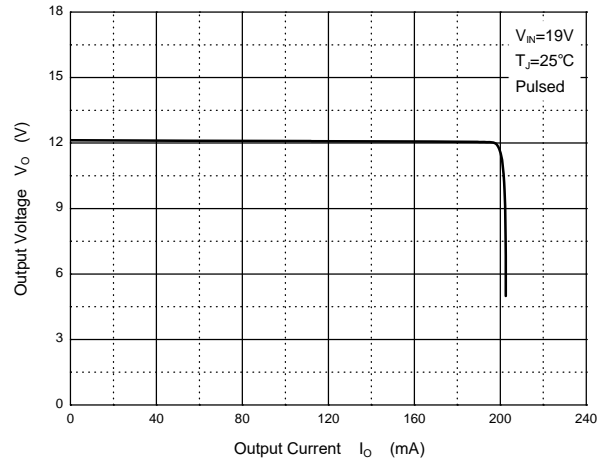
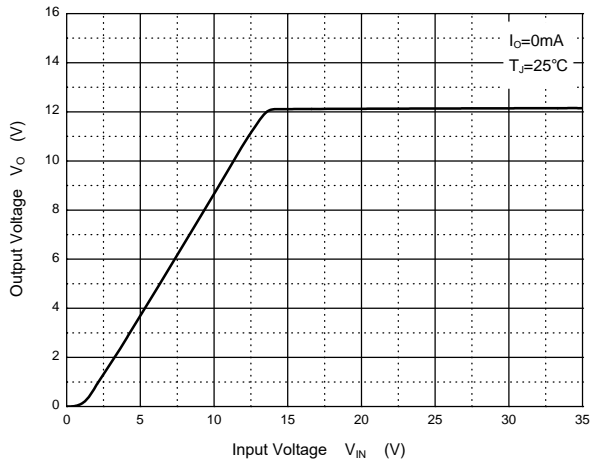
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Output Voltage	$V_O$	$T_J = 25^\circ\text{C}$	11.5	12	12.5	V
		$I_O = 1\text{mA to } 40\text{mA}$ , $V_I = 14.5\text{V to } 27\text{V}$	11.4	12	12.6	V
		$I_O = 1\text{mA to } 70\text{mA}$ , $V_I = 19\text{V}$	11.4	12	12.6	V
Line Regulation	$\Delta V_O$	$V_I = 14.5\text{V to } 27\text{V}$ , $T_J = 25^\circ\text{C}$	--	--	250	mV
		$V_I = 16\text{V to } 27\text{V}$ , $T_J = 25^\circ\text{C}$	--	--	200	mV
Load Regulation	$\Delta V_O$	$I_O = 1\text{mA to } 100\text{mA}$ , $T_J = 25^\circ\text{C}$	--	--	100	mV
		$I_O = 1\text{mA to } 40\text{mA}$ , $T_J = 25^\circ\text{C}$	--	--	50	mV
Ripple Rejection	RR	$V_I = 15\text{V to } 25\text{V}$ , $f = 120\text{Hz}$ , $T_J = 25^\circ\text{C}$	37	--	--	dB
Dropout Voltage	$V_D$	$T_J = 25^\circ\text{C}$	--	1.7	--	V
Quiescent Current	$I_Q$	$T_J = 25^\circ\text{C}$	--	--	6	mA
Quiescent Current Change	$\Delta I_Q$	$V_I = 16\text{V to } 27\text{V}$	--	--	1.5	mA
		$I_O = 1\text{mA to } 80\text{mA}$	--	--	0.1	mA
Output Noise Voltage	$V_N$	$10\text{Hz} \leq f \leq 100\text{kHz}$ , $T_J = 25^\circ\text{C}$	--	70	--	$\mu\text{V}/V_O$



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## 3-Terminal Voltage Regulator

### Typical Characteristic Curves





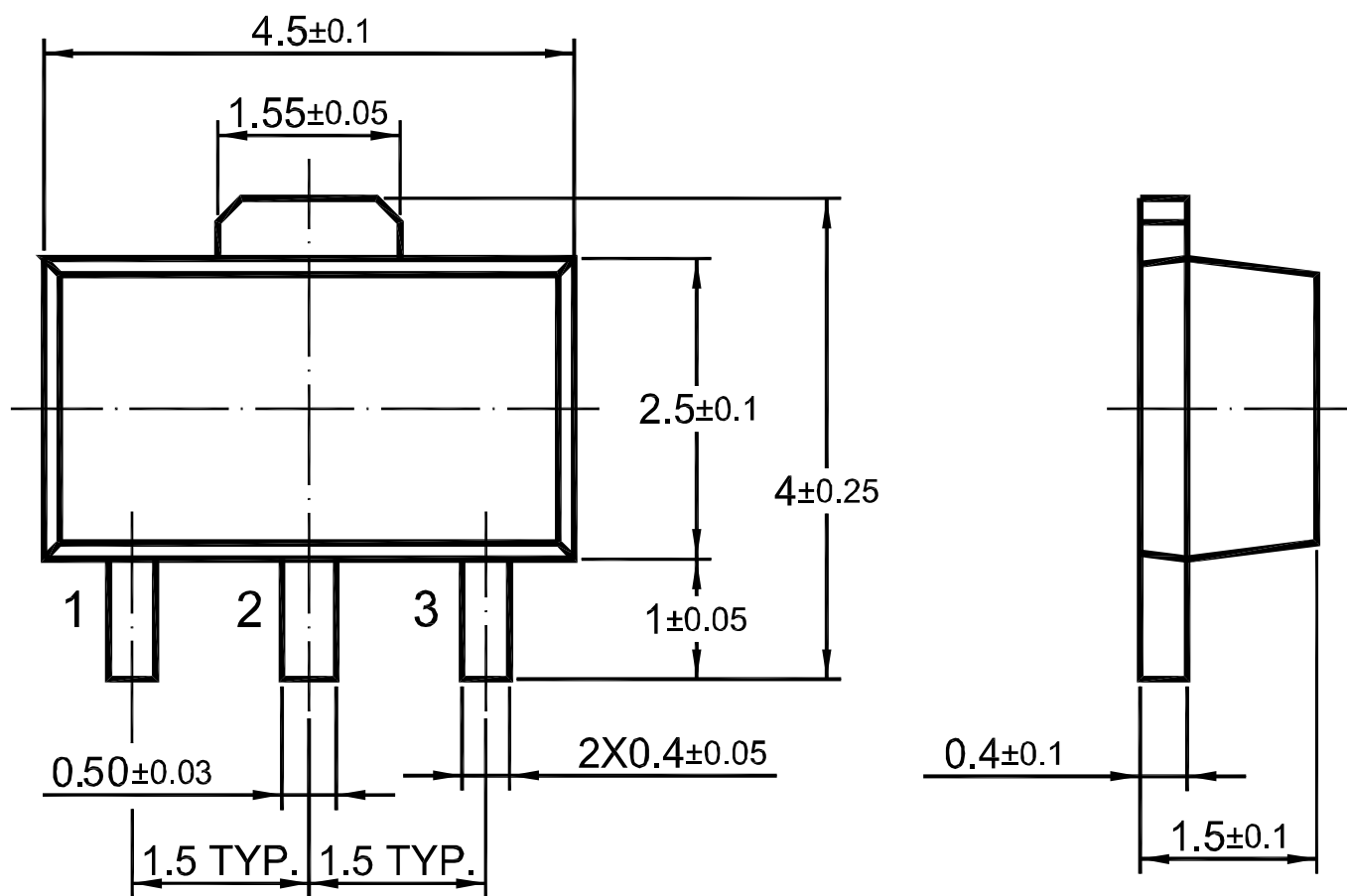
# PJ78L12SQ

## 3-Terminal Voltage Regulator

### Package Outline

SOT-89

Dimensions in mm



### Ordering Information

Device	Package	Shipping
PJ78L12SQ	SOT-89	3,000PCS/Reel&13inches