



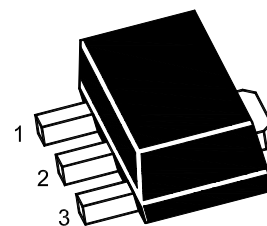
PJ78L12SQ

3-Terminal Voltage Regulator

Features

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

SOT-89



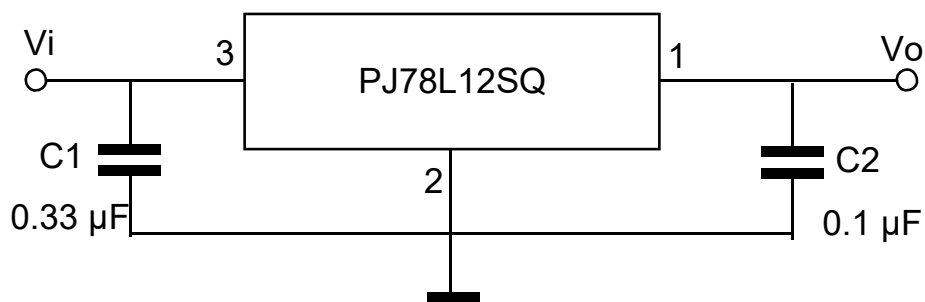
1. VOUT 2. GND 3. VIN

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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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.

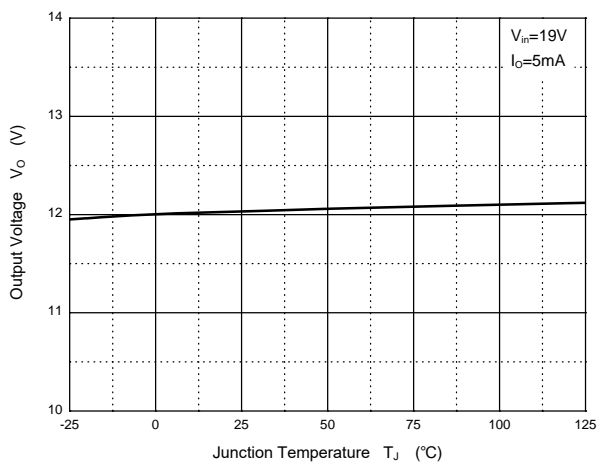
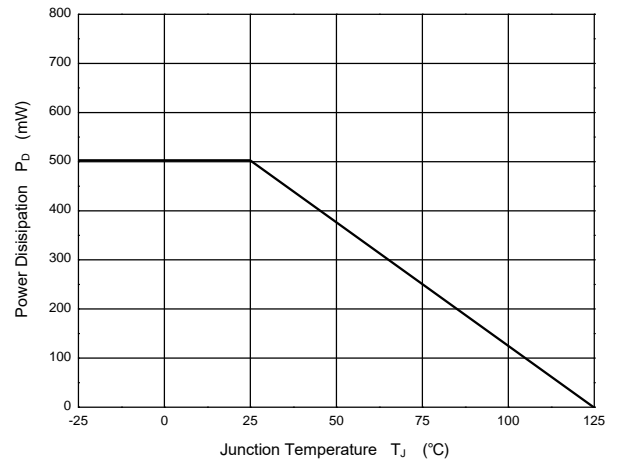
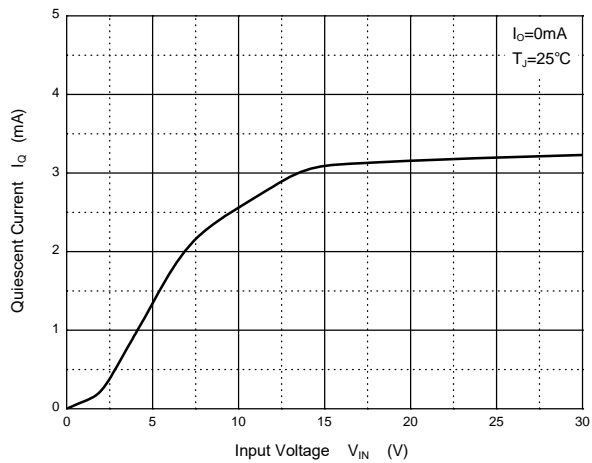
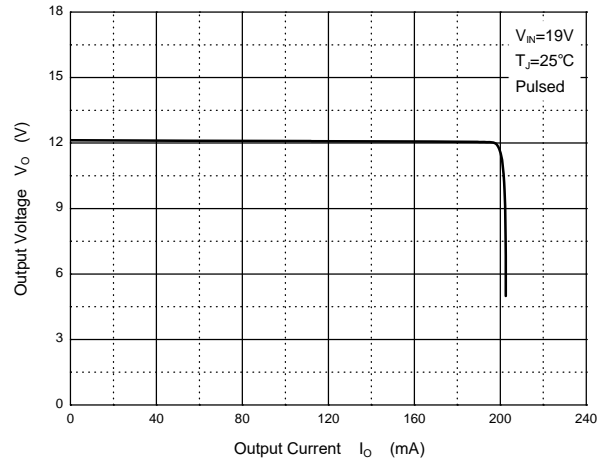
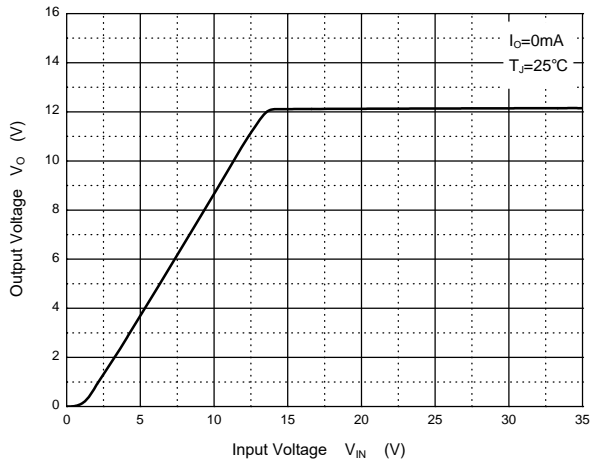
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Output Voltage	V_O	$T_J = 25^\circ\text{C}$	11.5	12	12.5	V
		$I_O = 1\text{mA to } 40\text{mA}$, $V_I = 14.5\text{V to } 27\text{V}$	11.4	12	12.6	V
		$I_O = 1\text{mA to } 70\text{mA}$, $V_I = 19\text{V}$	11.4	12	12.6	V
Line Regulation	ΔV_O	$V_I = 14.5\text{V to } 27\text{V}$, $T_J = 25^\circ\text{C}$	--	--	250	mV
		$V_I = 16\text{V to } 27\text{V}$, $T_J = 25^\circ\text{C}$	--	--	200	mV
Load Regulation	ΔV_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	ΔI_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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Typical Characteristic Curves





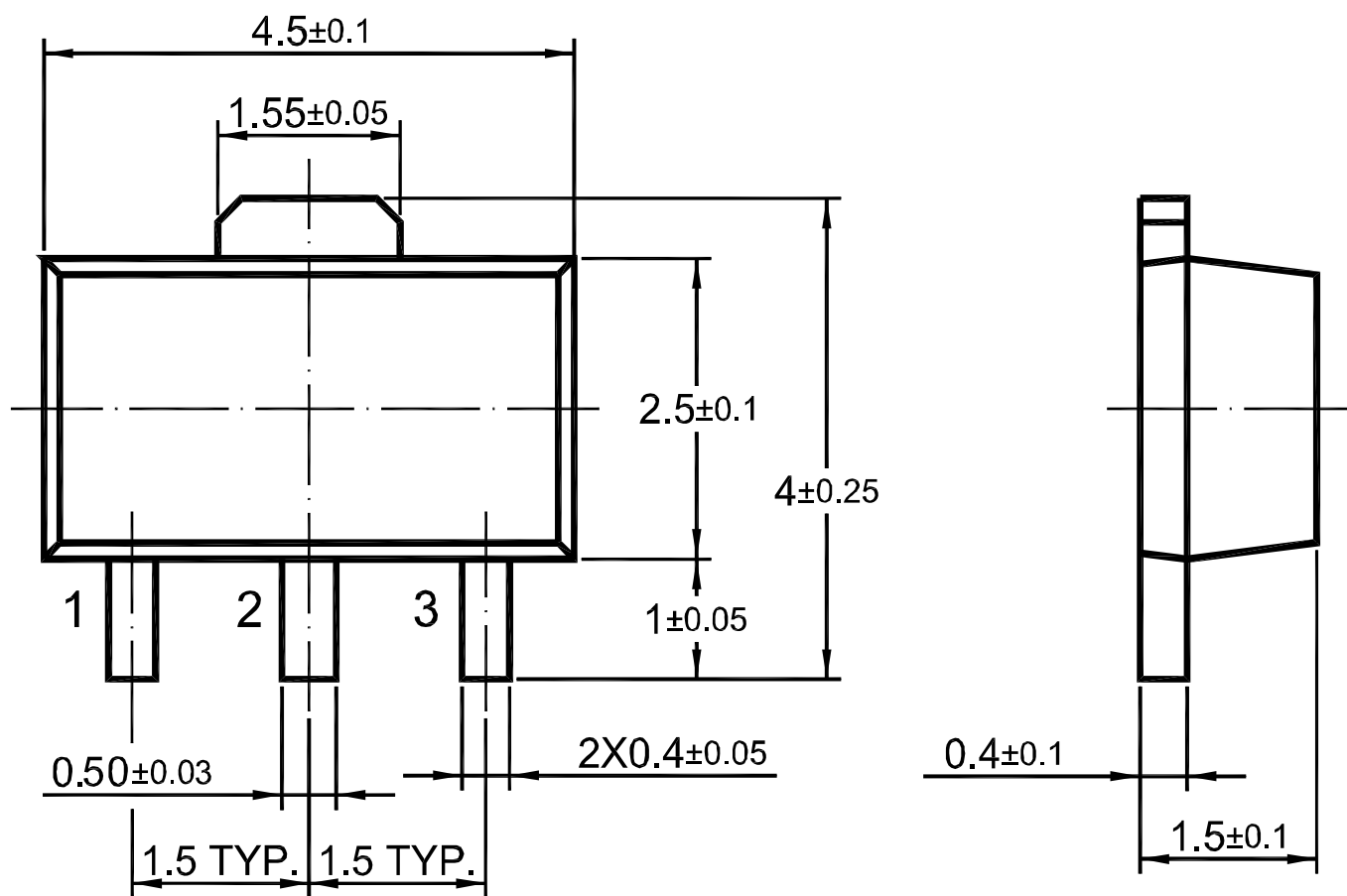
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3-Terminal Voltage Regulator

Package Outline

SOT-89

Dimensions in mm



Ordering Information

Device	Package	Shipping
PJ78L12SQ	SOT-89	1,000PCS/Reel&7inches
		3,000PCS/Reel&13inches