



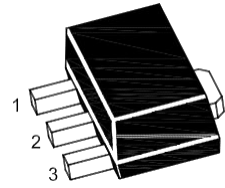
# PJ78L06SQ

## 3-Terminal Voltage Regulator

### Features

- Input voltage: up to 30V
- Output: 6V
- Output current up to 100 mA, internal thermal overload protection and short-circuit limiting.

SOT-89

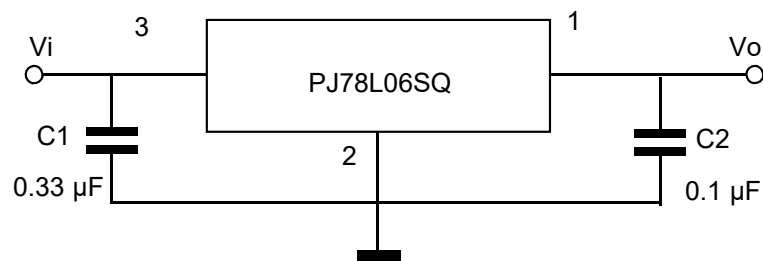


1. OUT 2. GND 3. IN

### Maximum Ratings

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

Parameter	Symbols	Value	Units
Input Voltage	$V_I$	30	V
Output Current	$I_o$	100	mA
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Operating Temperature Range	$T_{\text{OPR}}$	-40~125	$^\circ\text{C}$
Power Dissipation	$P_D$	500	mW
Storage Temperature Range	$T_{\text{STG}}$	-55~150	$^\circ\text{C}$





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## 3-Terminal Voltage Regulator

### Electrical Characteristics

Ratings at  $T_A = 25^\circ\text{C}$  ambient temperature,  $0^\circ\text{C} \leq T_J \leq 125^\circ\text{C}$   $V_I = 11\text{V}$ ,  $I_O = 40\text{mA}$ ,  $C_i = 0.33\mu\text{F}$ ,  $C_o = 0.1\mu\text{F}$ , unless otherwise specified.

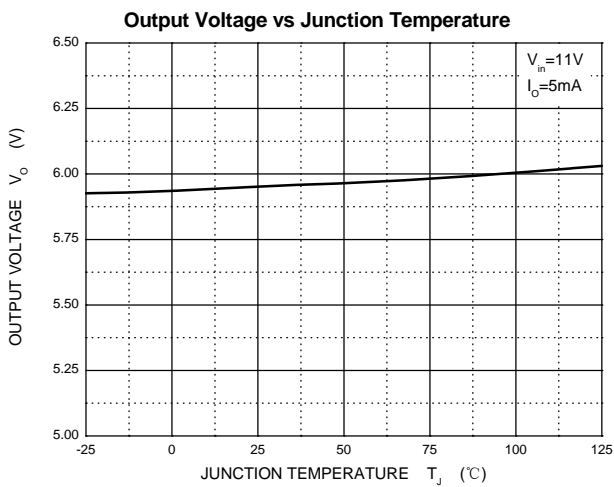
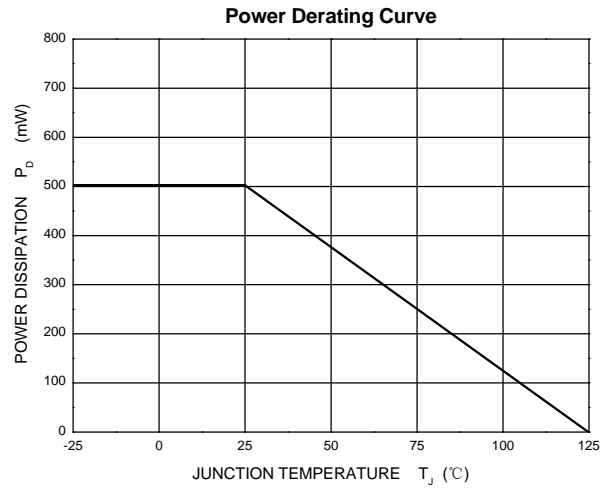
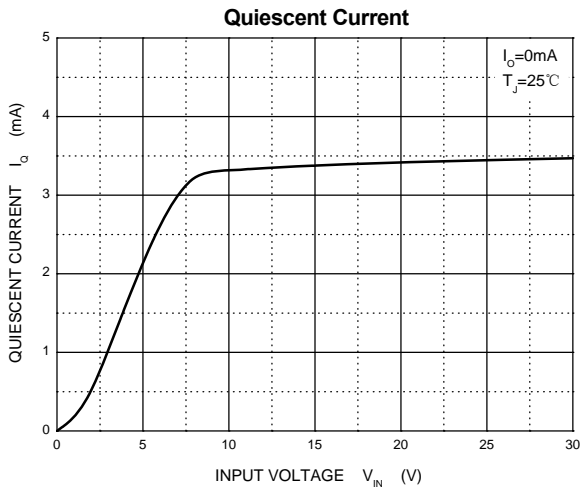
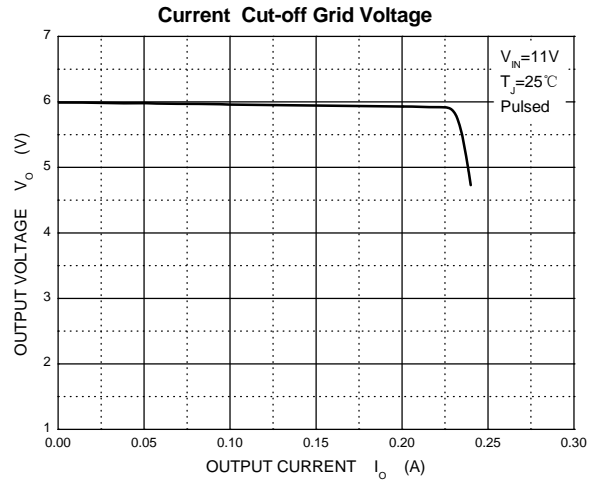
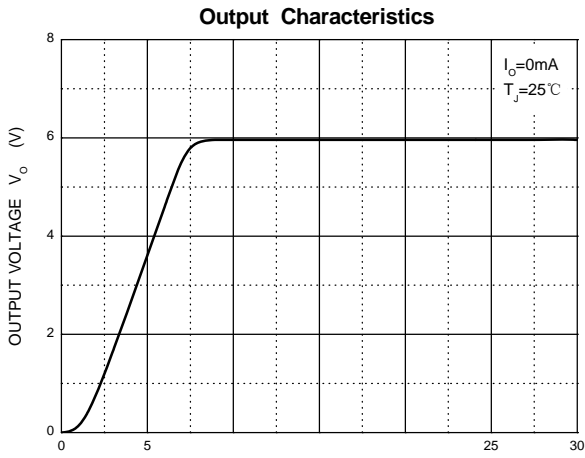
Parameter	Symbols	Test Conditions	Min	Typ	Max	Unit
Output Voltage	$V_O$	$T_J = 25^\circ\text{C}$	5.76	6	6.24	V
		$I_O = 1\text{mA to } 40\text{mA}$ $V_I = 8.5\text{V to } 21\text{V}$	5.7	6	6.3	V
		$I_O = 1\text{mA to } 70\text{mA}$ $V_I = 11\text{V}$	5.7	6	6.3	V
Line Regulation	$\Delta V_O$	$V_I = 8.5\text{V to } 21\text{V}$ $T_J = 25^\circ\text{C}$			155	mV
		$V_I = 9\text{V to } 21\text{V}$ $T_J = 25^\circ\text{C}$			105	mV
Load Regulation	$\Delta V_O$	$I_O = 1\text{mA to } 100\text{mA}$ , $T_J = 25^\circ\text{C}$			65	mV
		$I_O = 1\text{mA to } 40\text{mA}$ , $T_J = 25^\circ\text{C}$			35	mV
Ripple Rejection	RR	$V_I = 9\text{V to } 19\text{V}$ , $T_J = 25^\circ\text{C}$ $f = 120\text{Hz}$	40			dB
Output Noise Voltage	$V_N$	$f = 10\text{Hz} \sim 100\text{KHz}$ $T_J = 25^\circ\text{C}$		49		$\mu\text{V}$
Dropout Voltage	$V_D$	$T_J = 25^\circ\text{C}$		1.7		V
Quiescent Current	$I_Q$	$T_J = 25^\circ\text{C}$			5.5	mA
Quiescent Current Change	$\Delta I_Q$	$V_I = 9\text{V to } 21\text{V}$ , $I_O = 40\text{mA}$			1.5	mA
		$V_I = 11\text{V}$ , $I_O = 1\text{mA to } 40\text{mA}$			0.1	mA



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## 3-Terminal Voltage Regulator

### Ratings and Characteristic Curves





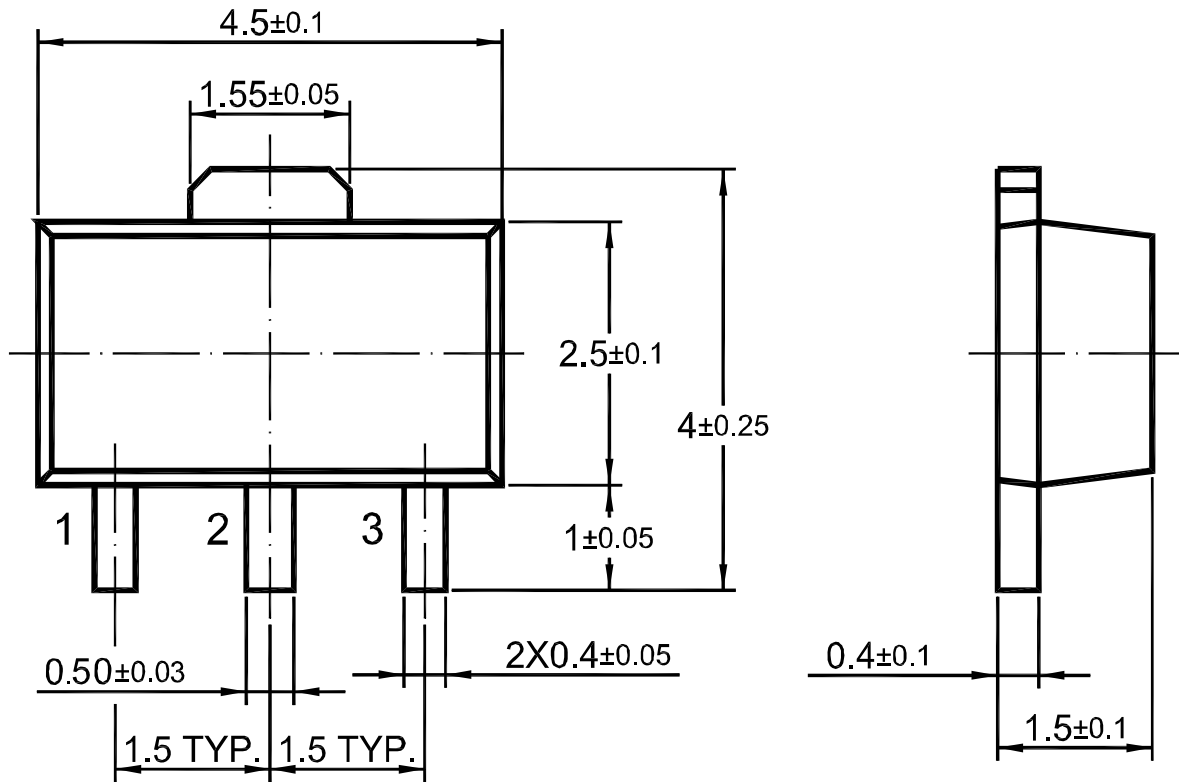
# PJ78L06SQ

## 3-Terminal Voltage Regulator

### Package Outline

SOT-89

Dimensions in mm



### Ordering Information

Device	Package	Shipping
PJ78L06SQ	SOT-89	1,000/ Tape & Reel (7 inches)

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