

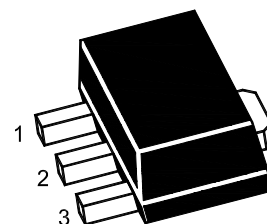
# PJ78S33SQ

## 3-Terminal Voltage Regulator

### Features

- Input voltage: up to 30V
- Output voltage: 3.3V
- Output current up to 200 mA, internal thermal overload protection and short-circuit current limiting.

SOT-89



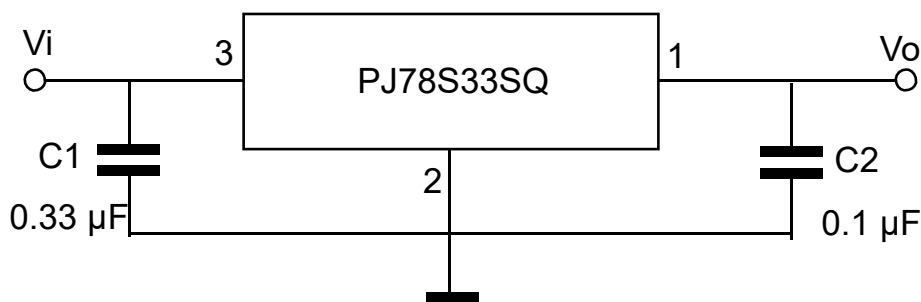
1. VOUT 2. GND 3. VIN

Marking Code : 78S33

### Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Input Voltage	$V_I$	30	V
Output Current	$I_O$	200	mA
Maximum Power Dissipation	$P_D$	500	mW
Junction Temperature	$T_J$	125	°C
Operating Temperature Range	$T_{OPR}$	-40 to +120	°C
Storage Temperature Range	$T_{STG}$	-40 to +150	°C





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## 3-Terminal Voltage Regulator

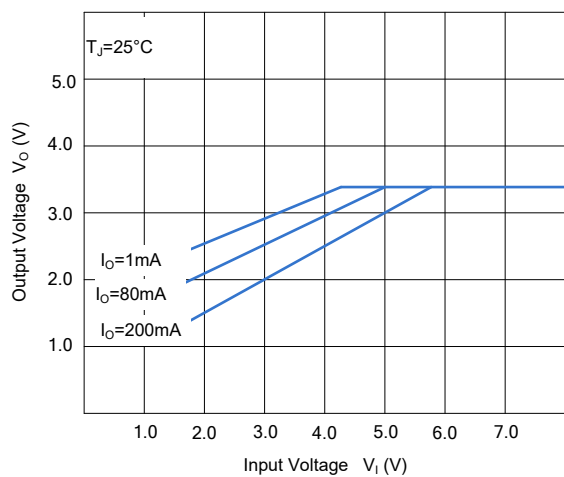
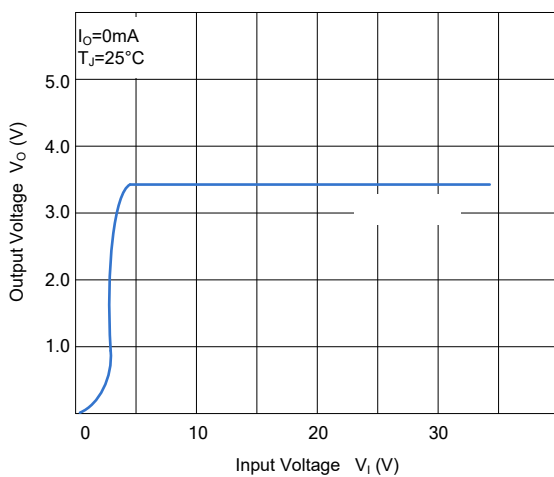
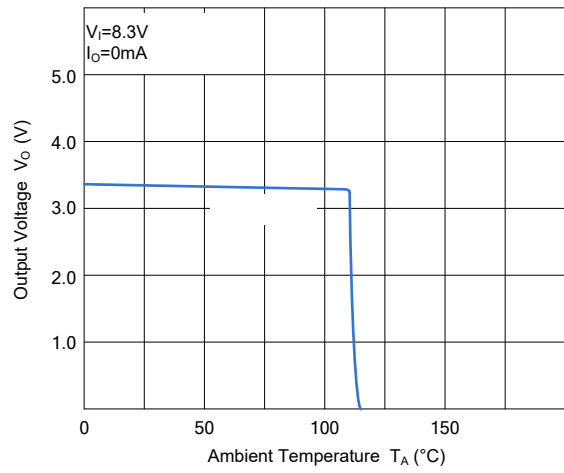
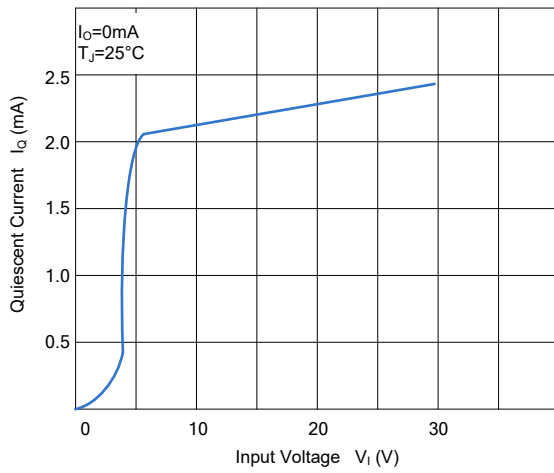
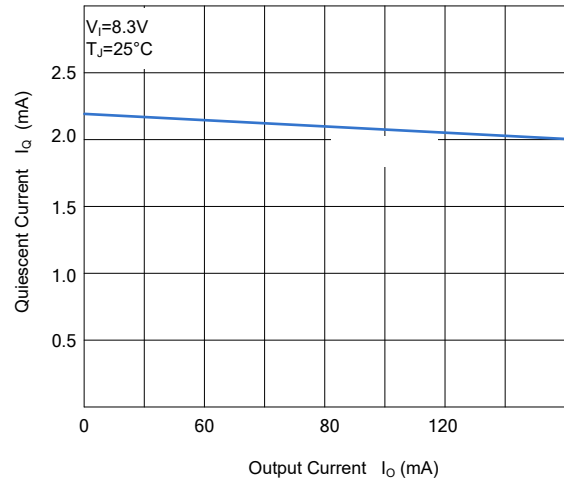
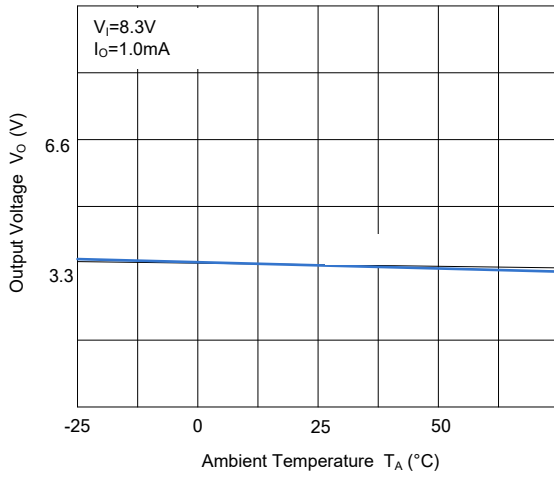
### Electrical Characteristics

$V_I=8.3V, I_O=80mA, 0 < T_J < 125^\circ C, C_I=0.33\mu F, C_O=0.1\mu F$ , unless otherwise specified.

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Output Voltage	$V_O$	$T_J=25^\circ C$	3.168	3.3	3.432	V
		$I_O=1mA$ to 80mA, $V_I=5.3V$ to 20V	3.135	--	3.465	V
		$I_O=1mA$ to 140mA	3.135	--	3.465	V
Line Regulation	$\Delta V_O$	$V_I=5.3V$ to 20V, $T_J=25^\circ C$	--	7	150	mV
		$V_I=6.3V$ to 20V, $T_J=25^\circ C$	--	4	100	mV
Load Regulation	$\Delta V_O$	$I_O=1mA$ to 200mA, $T_J=25^\circ C$	--	10	60	mV
		$I_O=1mA$ to 80 mA, $T_J=25^\circ C$	--	7	30	mV
Ripple Rejection	RR	$V_I=9V$ to 20V, $f=120Hz, T_J=25^\circ C$	40	49	--	dB
Dropout Voltage	$V_D$		--	1.7	--	V
Quiescent Current	$I_Q$	$T_J=25^\circ C$	--	2.0	5.5	mA
Quiescent Current Change	$\Delta I_Q$	$V_I=6.3V$ to 20V	--	--	1.5	mA
		$I_O=1mA$ to 80mA	--	--	0.1	mA
Output Noise Voltage	$V_N$	$10Hz \leq f \leq 100kHz, T_J=25^\circ C$	--	40	--	$\mu V/V_O$



### Typical Characteristic Curves





# PJ78S33SQ

## 3-Terminal Voltage Regulator

### Package Outline

SOT-89

Dimensions in mm



### Ordering Information

Device	Package	Shipping
PJ78S33SQ	SOT-89	1,000PCS/Reel&7inches
		3,000PCS/Reel&13inches