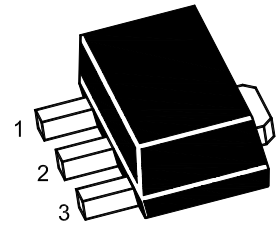


Features

- Input voltage: up to 30V
- Output voltage: 3.3V
- Output current up to 100 mA, internal thermal overload protection and short-circuit current limiting.

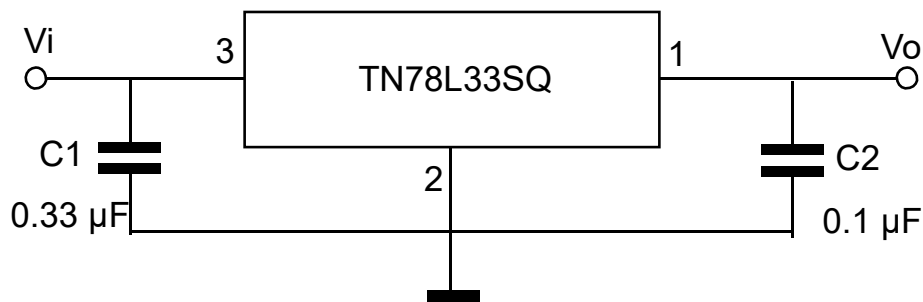
SOT-89


1. VOUT 2. GND 3. VIN

Marking Code : 78L33
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	100	mA
Maximum Power Dissipation	P_D	400	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

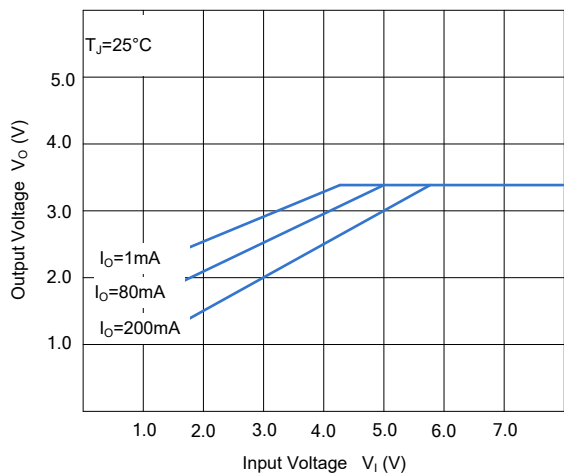
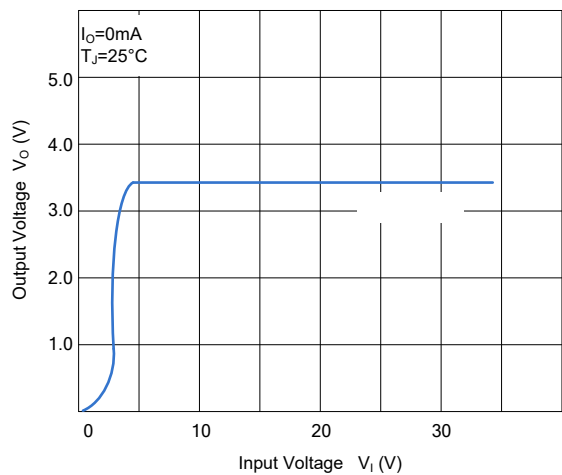
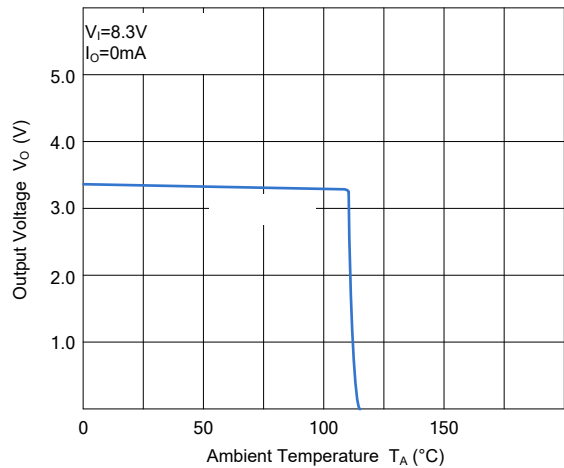
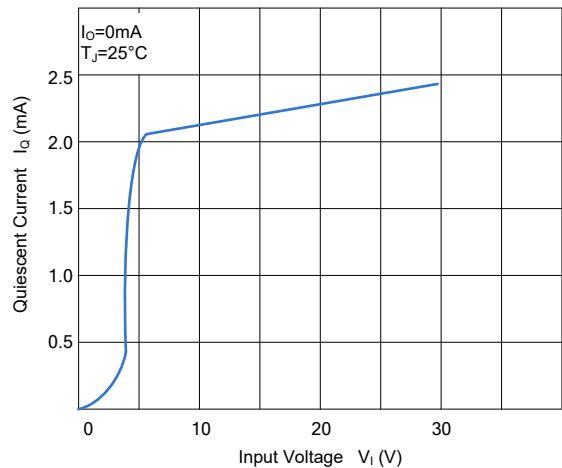
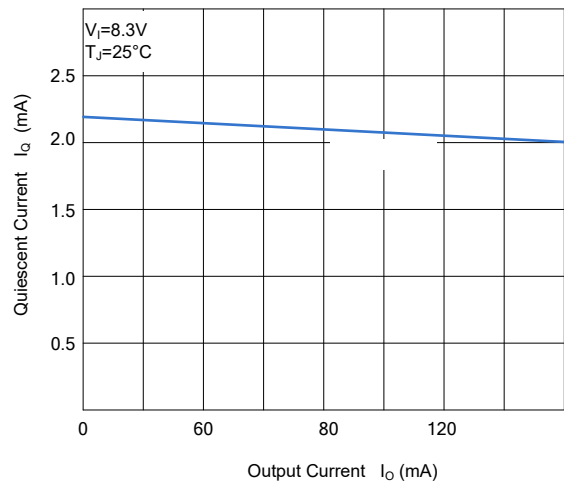
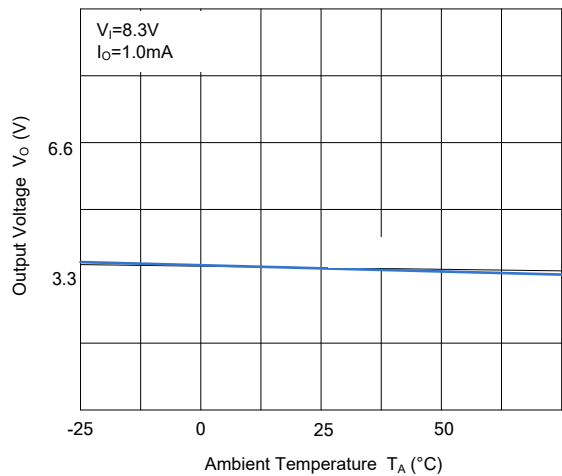


Electrical Characteristics

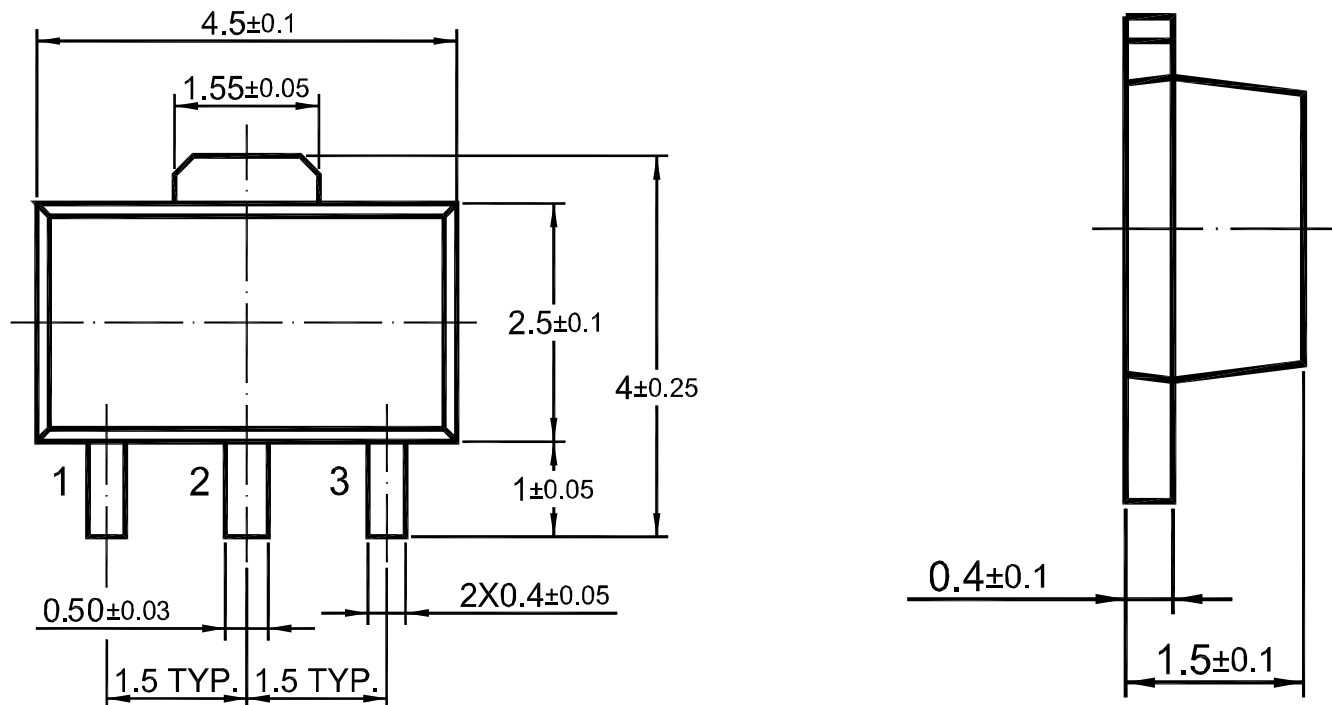
$V_I=8.3V, I_O=80mA, 0<T_J<125^{\circ}C, C_I=0.33\mu F, C_O=0.1\mu F$, unless otherwise specified.

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	ΔV_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	ΔV_O	$I_O=1mA$ to $200mA, T_J=25^{\circ}C$	--	10	60	mV
		$I_O=1mA$ to $80mA, T_J=25^{\circ}C$	--	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	ΔI_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



SOT-89 Dimensions in mm



Device	Package	Shipping
TN78L33SQ	SOT-89	1,000PCS/Reel&7inches
		3,000PCS/Reel&13inches

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