



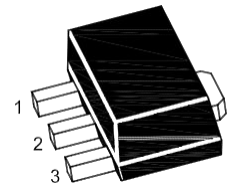
THE DATASHEET OF SL78L12



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.



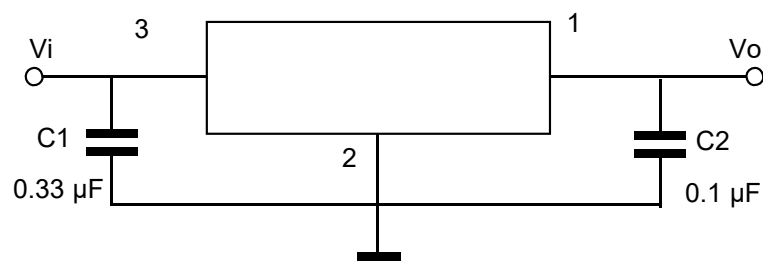
1. OUT 2. GND 3. IN

SOT-89

Maximum Ratings

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

Parameter	Symbols	Value	Units
Input Voltage	V_I	35	V
Output Current	I_o	100	mA
Junction Temperature	T_J	150	$^\circ\text{C}$
Operating Temperature Range	T_{OPR}	-40~125	$^\circ\text{C}$
Power Dissipation	P_D	500	mW
Storage Temperature Range	T_{STG}	-55~150	$^\circ\text{C}$



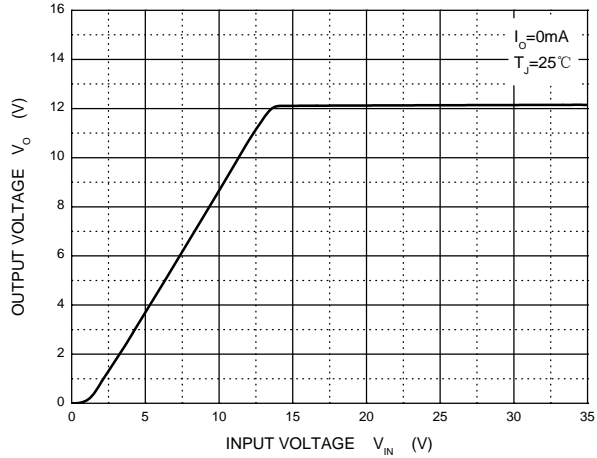
Electrical Characteristic

 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.

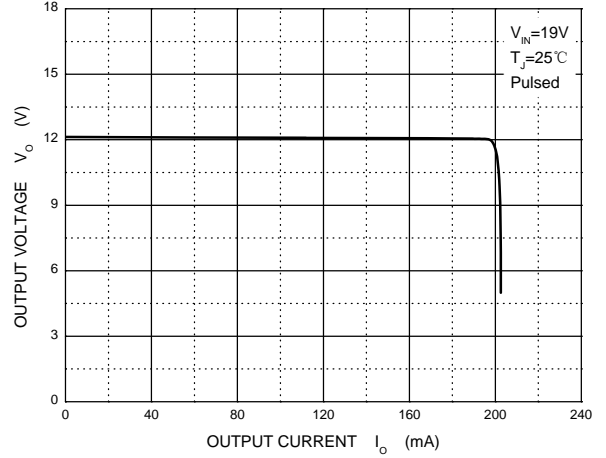
Parameter	Symbols	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_O	$T_J = 25^\circ\text{C}$	11.5	12	12.5	V
		$I_O = 1\text{mA to } 40\text{mA}$ $V_I = 14.5\text{V to } 27\text{V}$	11.4	12	12.6	V
		$I_O = 1\text{mA to } 70\text{mA}$ $V_I = 19\text{V}$	11.4	12	12.6	V
Line Regulation	ΔV_O	$V_I = 14.5\text{V to } 27\text{V}$ $T_J = 25^\circ\text{C}$			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	$V_I = 15\text{V to } 25\text{V}$, $T_J = 25^\circ\text{C}$ $f = 120\text{Hz}$	37			dB
Output Noise Voltage	V_N	$f = 10\text{Hz} \sim 100\text{KHz}$ $T_J = 25^\circ\text{C}$		70		μV
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
		$I_O = 1\text{mA to } 40\text{mA}$			0.1	mA

Ratings and Characteristic Curves

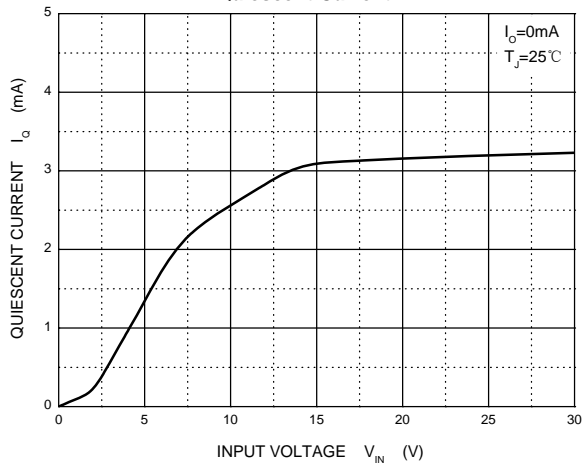
Output Characteristics



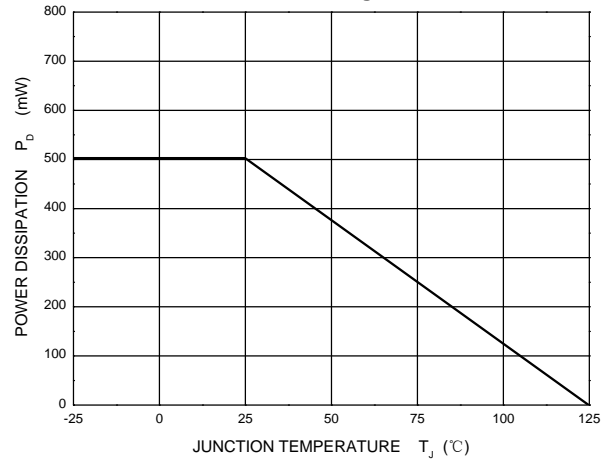
Current Cut-off Grid Voltage



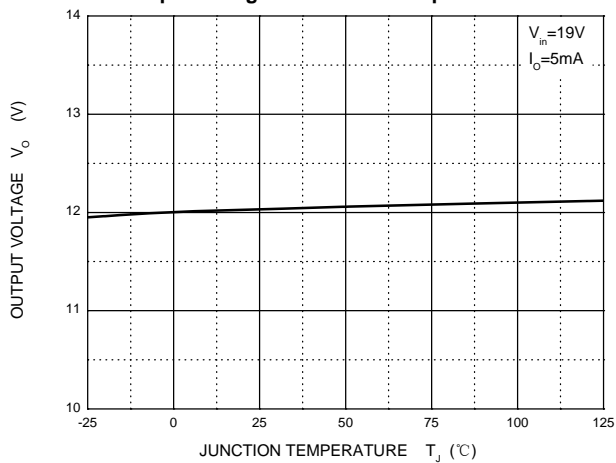
Quiescent Current



Power Derating Curve



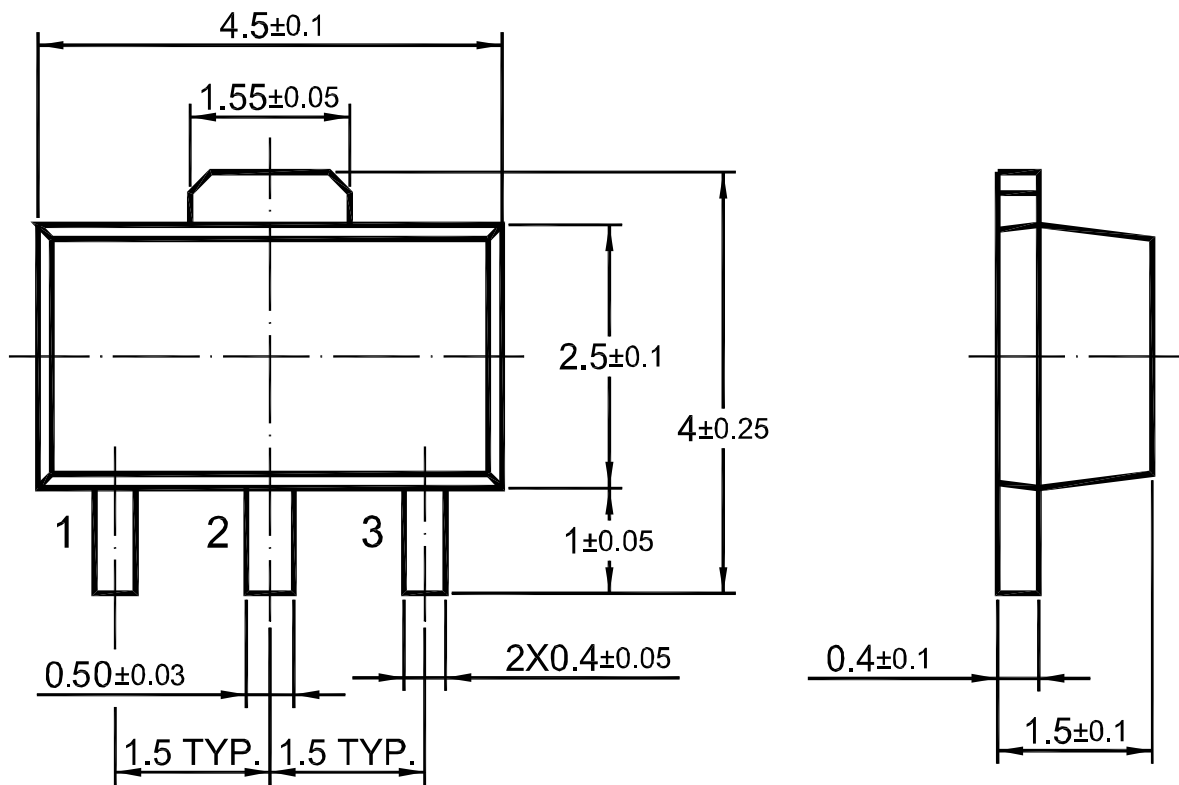
Output Voltage vs Junction Temperature



Package Outline

SOT-89

Dimensions in mm



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