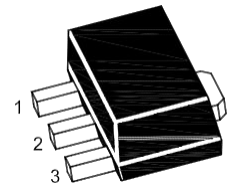


## 3-Terminal Voltage Regulator

### Features

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



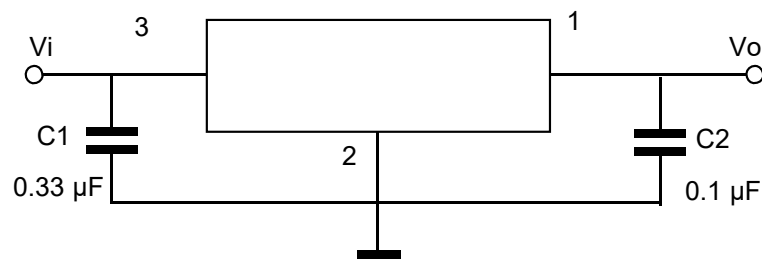
1. OUT 2. GND 3. IN

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### 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	$^\circ\text{C}$



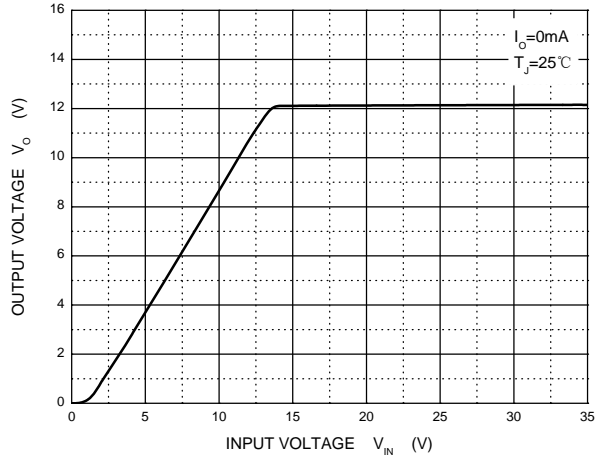
**Electrical Characteristic**

 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.

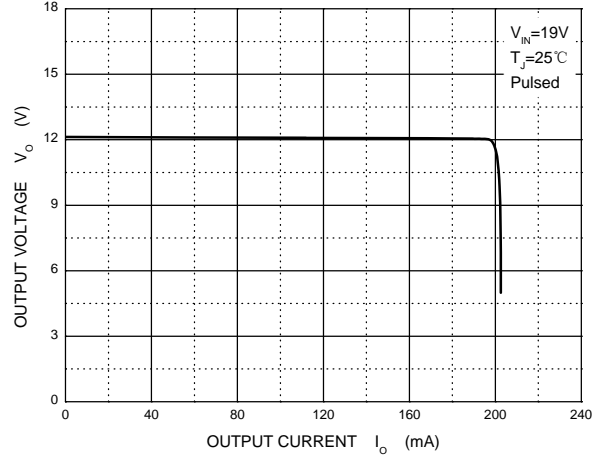
Parameter	Symbols	Test Conditions	Min	Typ	Max	Unit
Output Voltage	$V_O$	$T_J = 25^\circ\text{C}$	11.5	12	12.5	V
		$I_O = 1\text{mA to } 40\text{mA}$ $V_I = 14.5\text{V to } 27\text{V}$	11.4	12	12.6	V
		$I_O = 1\text{mA to } 70\text{mA}$ $V_I = 19\text{V}$	11.4	12	12.6	V
Line Regulation	$\Delta V_O$	$V_I = 14.5\text{V to } 27\text{V}$ $T_J = 25^\circ\text{C}$			250	mV
		$V_I = 16\text{V to } 27\text{V}$ $T_J = 25^\circ\text{C}$			200	mV
Load Regulation	$\Delta V_O$	$I_O = 1\text{mA to } 100\text{mA}$ , $T_J = 25^\circ\text{C}$			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		$\mu\text{V}$
Dropout Voltage	$V_D$	$T_J = 25^\circ\text{C}$		1.7		V
Quiescent Current	$I_Q$	$T_J = 25^\circ\text{C}$			6	mA
Quiescent Current Change	$\Delta I_Q$	$V_I = 16\text{V to } 27\text{V}$			1.5	mA
		$I_O = 1\text{mA to } 40\text{mA}$			0.1	mA

## Ratings and Characteristic Curves

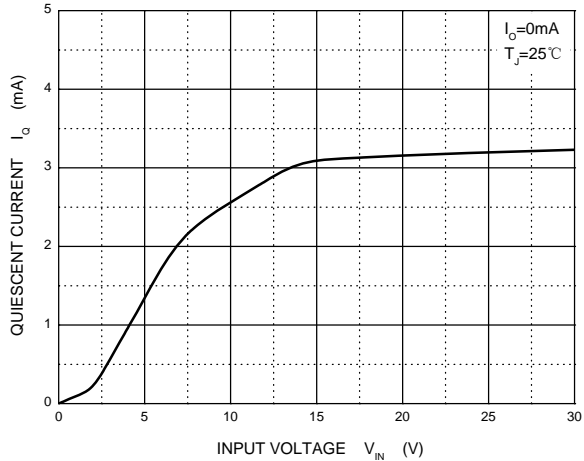
**Output Characteristics**



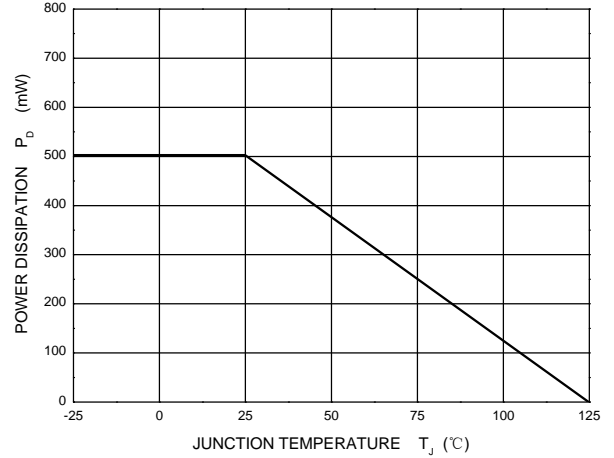
**Current Cut-off Grid Voltage**



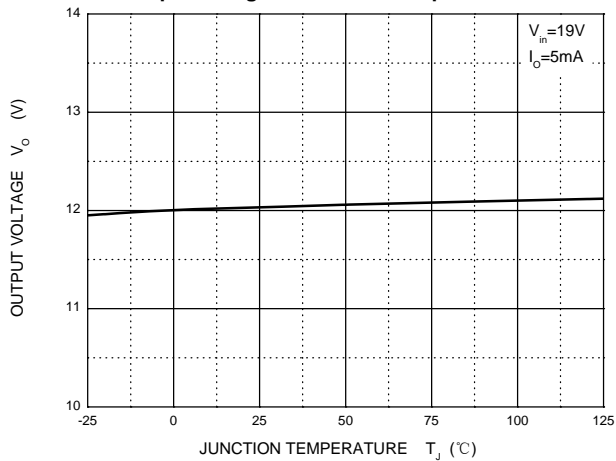
**Quiescent Current**



**Power Derating Curve**



**Output Voltage vs Junction Temperature**



**Package Outline**

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Dimensions in mm

