



78L15U Three-Terminal Positive Voltage Regulator

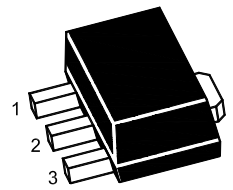
Features

Maximum Output current I_O : 0.1A

Output Voltage V_O : 6V

Continuous Total Dissipation P_D : 0.5W ($T_a = 25^\circ\text{C}$)

Mraking:78L15



1.OUT 2.GND 3.IN

SOT-89-3L

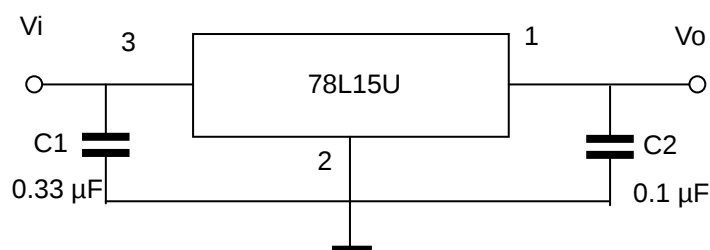
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Input Voltage	V_{IN}	35	V
Power Dissipation	P_{tot}	800 ¹⁾	mW
Operating Temperature	T_{opr}	- 30 to + 75	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

¹⁾ 15 mm X 25 mm X 0.7 mm alumina ceramic board, $T_a \leq 25^\circ\text{C}$

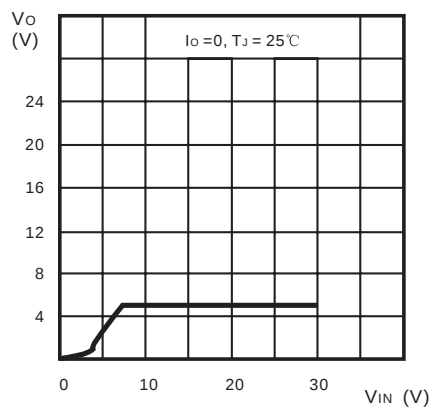
Electrical Characteristics (Unless otherwise specified, $V_{IN} = 23\text{ V}$, $I_{OUT} = 40\text{ mA}$, $C_{IN} = 0.33\text{ }\mu\text{F}$, $C_{OUT} = 0.1\text{ }\mu\text{F}$, $T_j = 25^\circ\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Output Voltage	V_{OUT}	14.4	15	15.6	V
Output Voltage $17.5\text{ V} \leq V_{IN} \leq 30\text{ V}$, $1\text{ mA} \leq I_{OUT} \leq 40\text{ mA}$	V_{OUT}	14.25	-	15.75	V
Output Voltage $V_{IN} = 23\text{ V}$, $1\text{ mA} \leq I_{OUT} \leq 70\text{ mA}$	V_{OUT}	14.25	-	15.75	V
Input Regulation $17.5\text{ V} \leq V_{IN} \leq 30\text{ V}$ $19\text{ V} \leq V_{IN} \leq 30\text{ V}$	Reg. line	- -	- -	300 250	mV
Load Regulation $1\text{ mA} \leq I_{OUT} \leq 100\text{ mA}$ $1\text{ mA} \leq I_{OUT} \leq 40\text{ mA}$	Reg. load	- -	- -	150 75	mV
Quiescent Current	I_Q	-	-	6.5	mA
Quiescent Current Change $19\text{ V} \leq V_{IN} \leq 30\text{ V}$ $1\text{ mA} \leq I_{OUT} \leq 40\text{ mA}$	ΔI_Q	- -	- -	1.5 0.1	mA
Output Noise Voltage at $T_a = 25^\circ\text{C}$, $10\text{ Hz} \leq f \leq 100\text{ KHz}$	V_{NO}	-	90	-	μV
Ripple Rejection at $f = 120\text{ Hz}$, $18.5\text{ V} \leq V_{IN} \leq 28.5\text{ V}$, $T_j = 25^\circ\text{C}$	RR	34	-	-	dB
Dropout Voltage at $T_j = 25^\circ\text{C}$	$ V_{IN} - V_{OUT} $	-	1.7	-	V

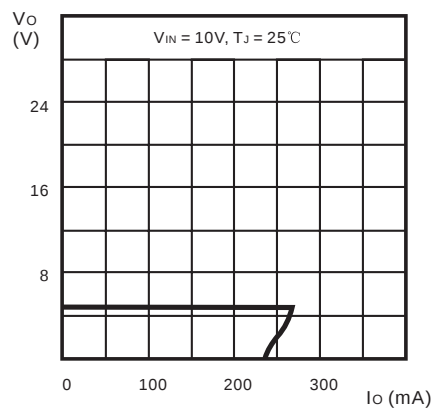




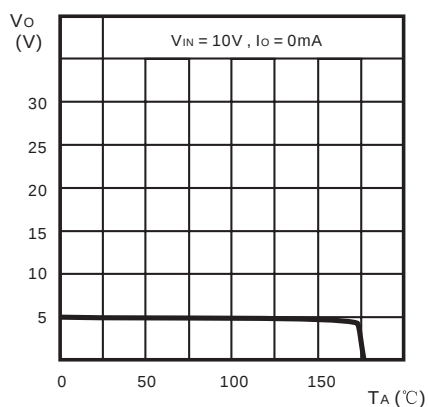
Typical Characteristics



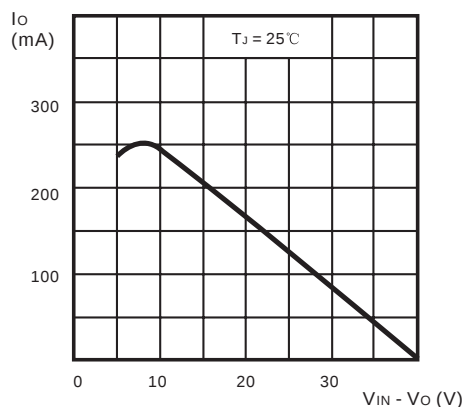
Output Characteristics



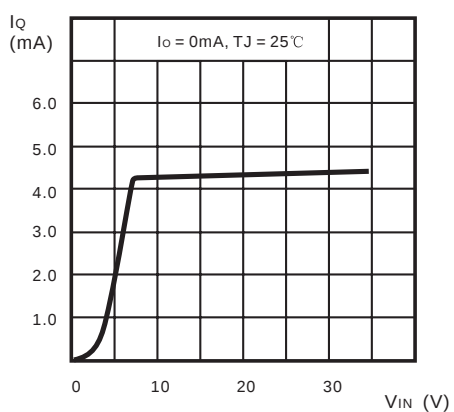
Load Characteristics



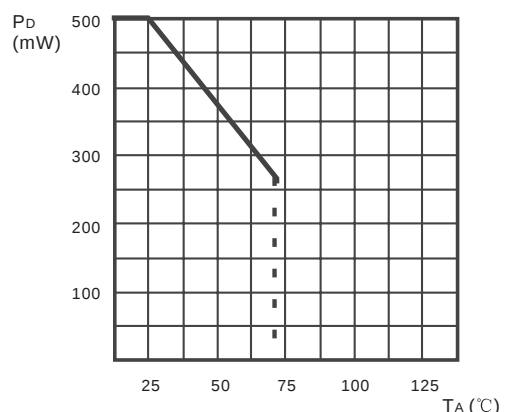
Thermal Shutdown



Short Circuit Output Current



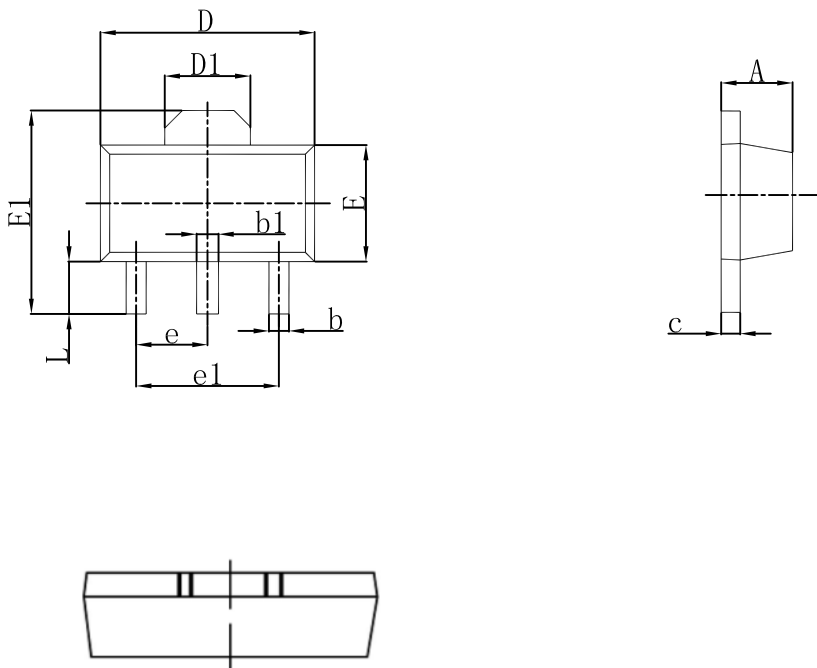
Quiescent Current vs Input Voltage



Power Dissipation vs. Ambient Temperature



SOT-89-3L Outlines Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047