78L15

Plastic-Encapsulate Voltage Regulators

FEATURES

- Maximum output current I_{OM}: 0.1A
- Output voltage Vo: 15V
- Continuous total dissipation P_D: 0.6W (Ta=25℃)

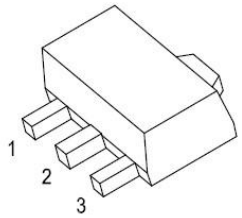
MECHANICAL DATA

- SOT-89-3L Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

Marking: 78L15

SOT-89-3L

1. OUT
2. GND
3. IN



Absolute Maximum Ratings (Operating temperature Range applies unless otherwise specified.)

Parameters	Symbol	Value	Unit
Input Voltage	V_i	35	V
Operating Junction Temperature Range	T_{OPR}	-25-+125	℃
Storage Temperature Range	Tstg	-65-+150	℃
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	166.7	℃/W

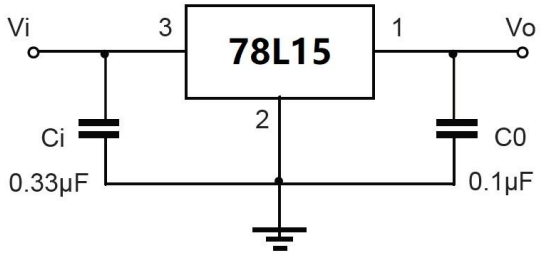
Electrical Characteristics at Specified Virtual Junction Temperature

(Vi=10V, Io=40mA, Ci=0.33uF, Co=0.1uF, unless otherwise specified)

Parameter	Symbols	Test Condition		Limits			Unit
				Min	Typ	Max	
Output Voltage	Vo		25℃	14.4	15	15.6	V
		17.5V≤Vi≤30V,Io=1mA~40mA	0-125℃	14.25	15	15.75	V
		Vi=23V,Io=1mA~70mA		14.25	15	15.75	V
Load Regulation	△Vo	Io=1mA~100mA,Vi=23V	25℃		25	150	mV
		Io=1mA~40mA,Vi=23V	25℃		15	75	mV
Line Regulation	△Vo	17.5V≤Vi≤30V,Io=40mA	0-125℃		65	300	mV
		19V≤Vi≤30V,Io=40mA	25℃		58	250	mV
Quiescent Current	Iq		25℃		4.6	6.5	mA
Quiescent Current Change	△Iq	19V≤Vi≤30V,Io=40mA	0-125℃			1.5	mA
	△Iq	1mA≤V I≤40mA,Vi=23V	0-125℃			0.1	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		82		uV/Vo
Ripple Rejection	RR	18.5V≤Vi≤28.5V,f=120Hz	25℃	34	39		dB
Dropout Voltage	Vd		25℃		1.7		V

* Pulse test.

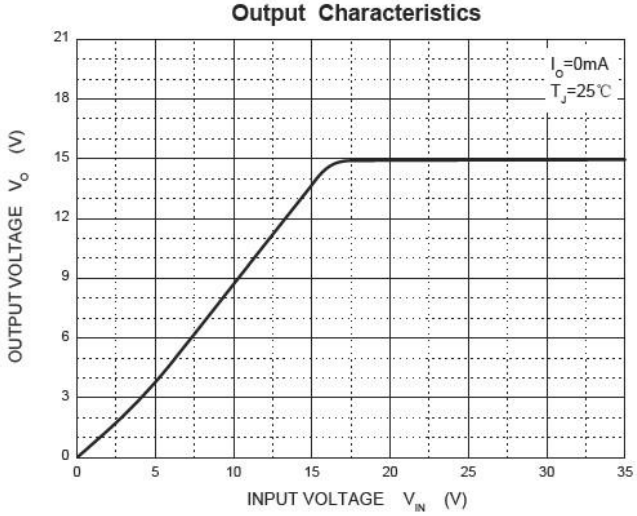
TYPICAL APPLICTION



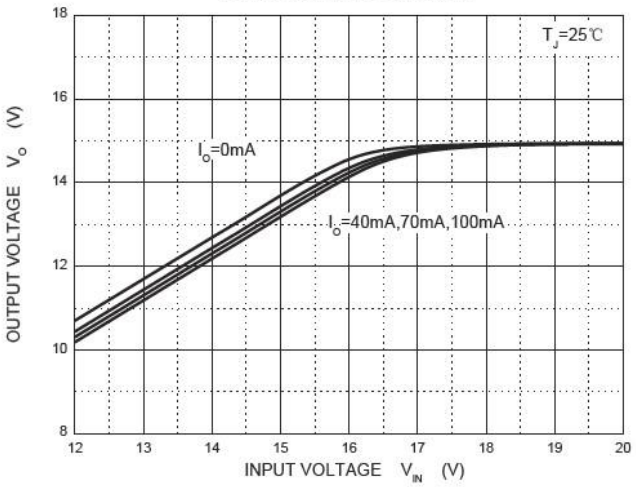
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

Typical characteristics

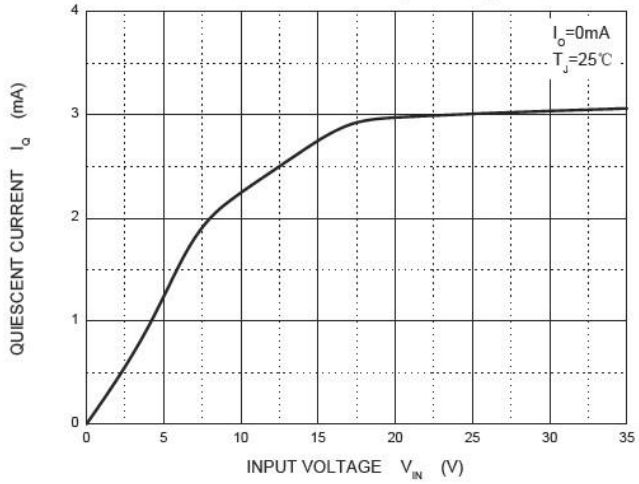
Output Characteristics



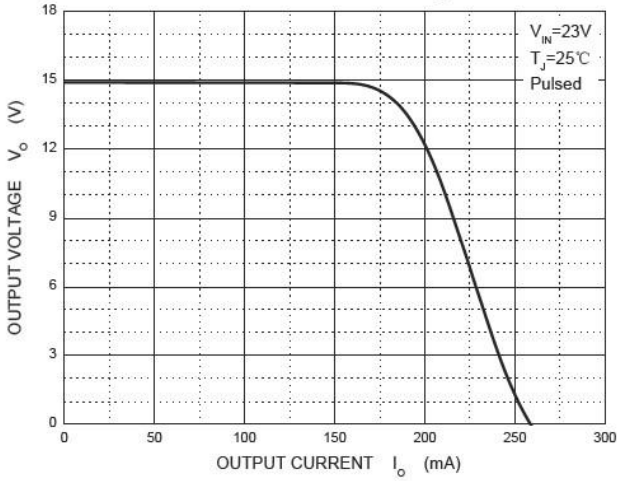
Dropout Characteristics



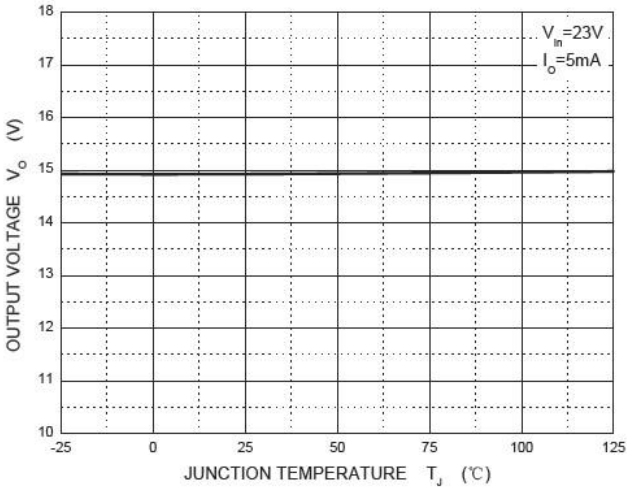
Quiescent Current vs Input Voltage



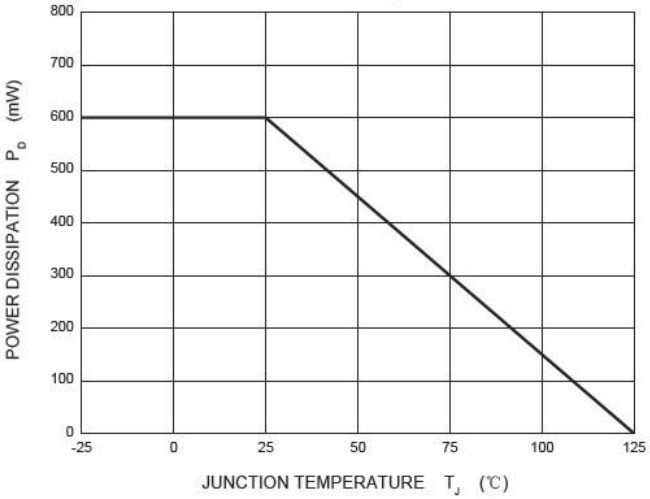
Current Cut-off Grid Voltage



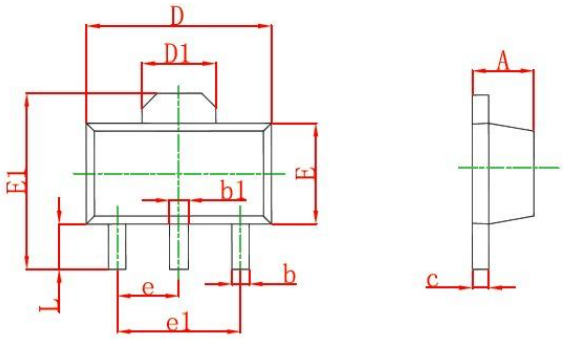
Output Voltage vs Junction Temperature



Power Derating Curve

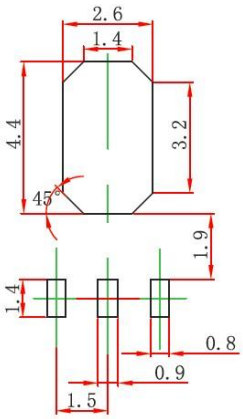


SOT-89-3L PACKAGE OUTLINE Plastic surface mounted package



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		1.550 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

Recommended land dimensions for SOT-89-3 diode. Electrode patterns for PCBs



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout Is for reference purposes only.

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