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78L15 Three-terminal positive voltage regulator

SOT-89 Encapsulate Three Terminal Voltage Regulator

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客户确认：

公司签章：

部门	工程部	品保部	采购部
签名			
日期			

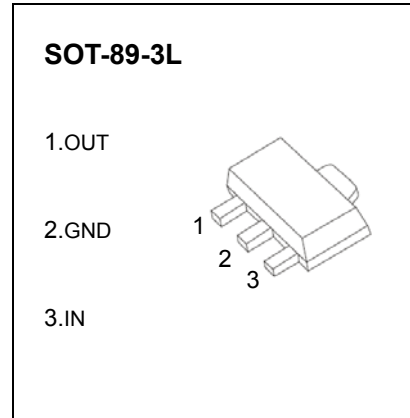


SOT-89 Encapsulate Three Terminal Voltage Regulator

78L15 Three-terminal positive voltage regulator

FEATURES

- Maximum output current**
 $I_{OM}: 0.1\text{ A}$
- Output voltage**
 $V_O: 15\text{ V}$
- Continuous total dissipation**
 $P_D: 0.5\text{ W}$



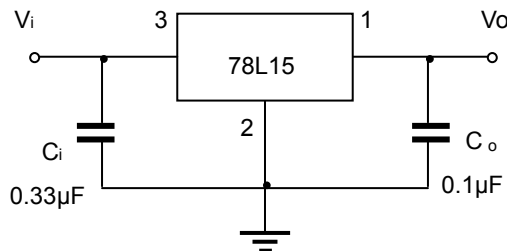
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Operating Junction Temperature Range	T_{OPR}	0~+150	°C
Storage Temperature Range	T_{STG}	-55~+150	°C

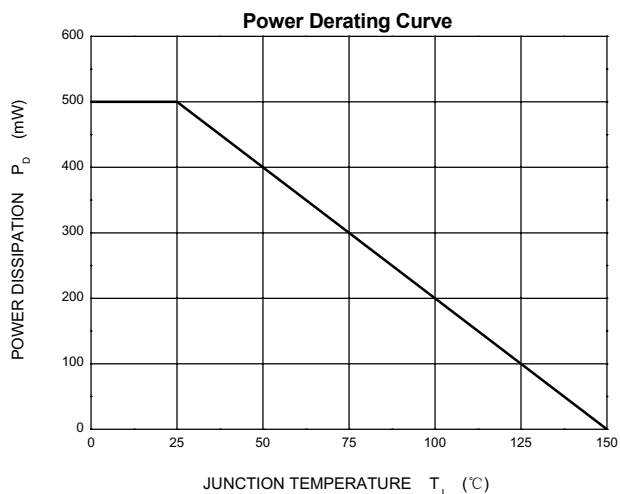
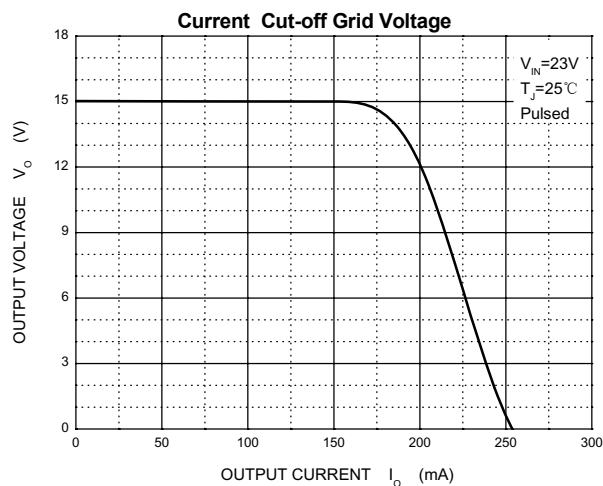
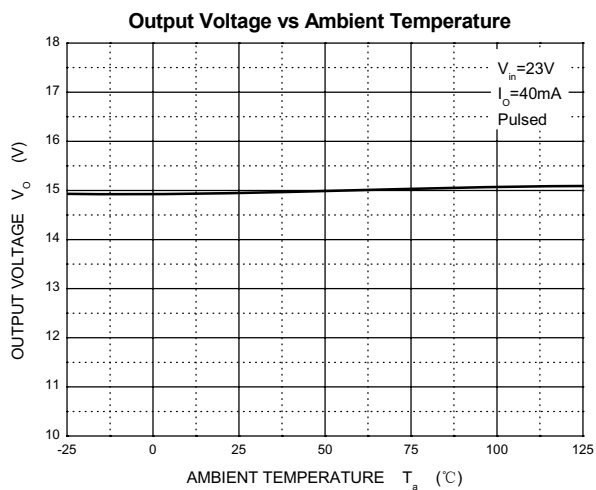
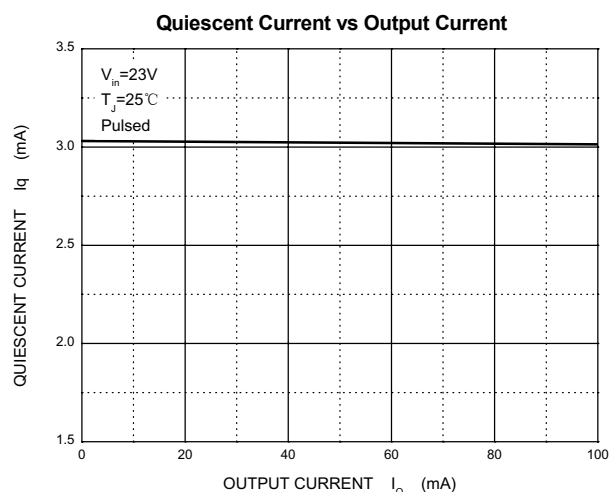
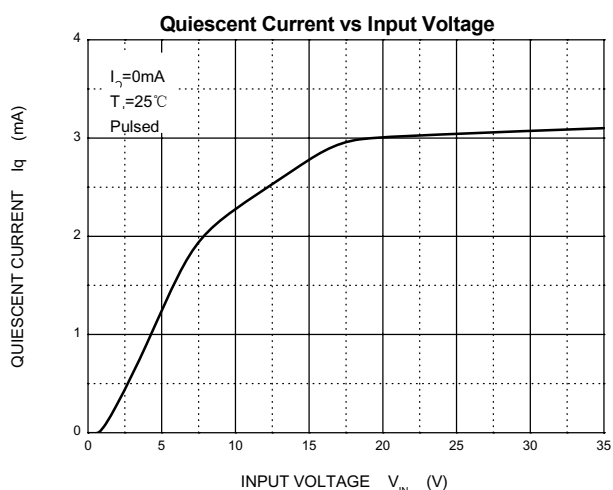
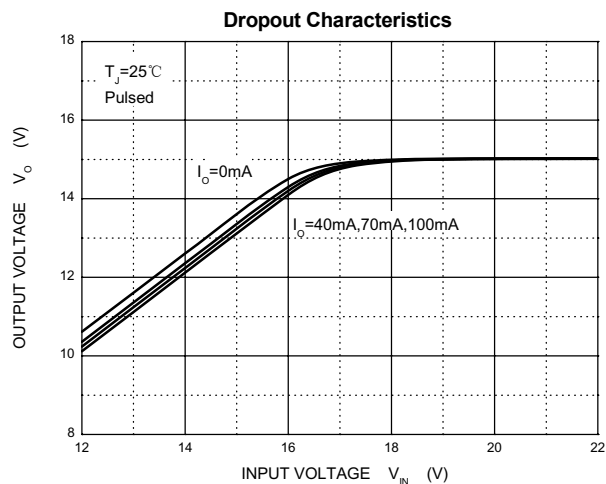
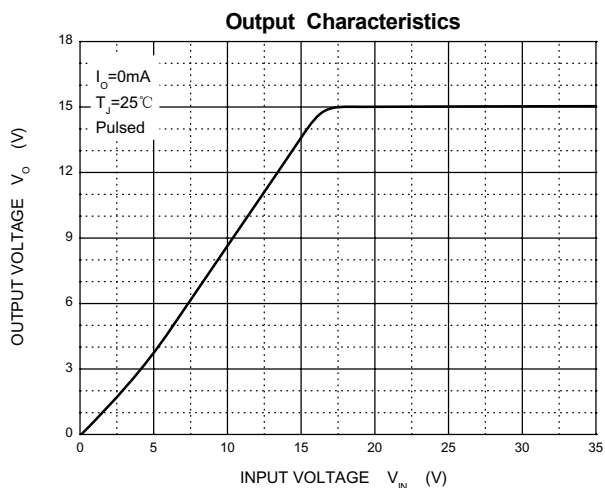
ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=23\text{V}, I_o=40\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V_o	25°C	14.4	15	15.6	V
		$17.5\text{V} \leq V_i \leq 30\text{V}, I_o=1\text{mA}-40\text{mA}$	14.25	15	15.75	V
		$V_i=23\text{V}, I_o=1\text{mA}-70\text{mA}$	14.25	15	15.75	V
Load Regulation	ΔV_o	$I_o=1\text{mA}-100\text{mA}, V_i=23\text{V}$	25°C	25	150	mV
		$I_o=1\text{mA}-40\text{mA}, V_i=23\text{V}$	25°C	15	75	mV
Line regulation	ΔV_o	$17.5\text{V} \leq V_i \leq 30\text{V}, I_o=40\text{mA}$	25°C	65	300	mV
		$19\text{V} \leq V_i \leq 30\text{V}, I_o=40\text{mA}$	25°C	58	250	mV
Quiescent Current	I_q	25°C		4.6	6.5	mA
Quiescent Current Change	ΔI_q	$19\text{V} \leq V_i \leq 30\text{V}, I_o=40\text{mA}$	$0-125^\circ\text{C}$		1.5	mA
	ΔI_q	$1\text{mA} \leq I_o \leq 40\text{mA}, V_i=23\text{V}$	$0-125^\circ\text{C}$		0.1	mA
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$	25°C	82		μV
Ripple Rejection	RR	$18.5\text{V} \leq V_i \leq 28.5\text{V}, f=120\text{Hz}$	$0-125^\circ\text{C}$	34	39	dB
Dropout Voltage	V_d	25°C		1.7		V

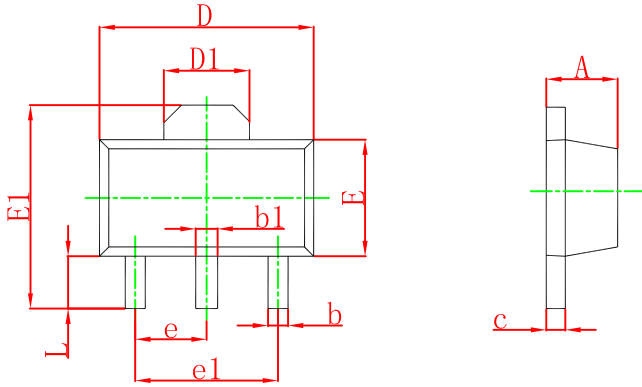
TYPICAL APPLICATION



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

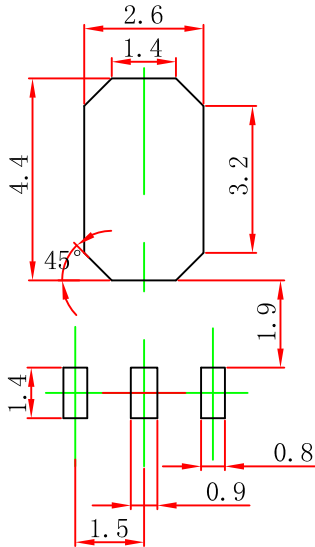


SOT-89-3L Package Outline Dimensions



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

SOT-89-3L Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.