

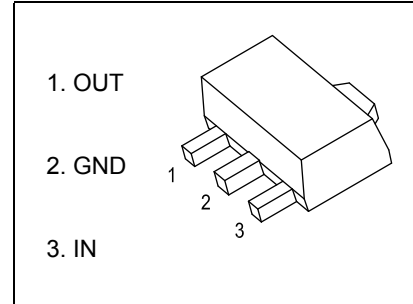
SOT-89 Plastic-Encapsulate Voltage Regulators

78L12 Three-terminal positive voltage regulator

SOT-89-3L

FEATURES

- Maximum output current
 $I_{OM}: 0.1A$
- Output voltage
 $V_O: 12V$
- Continuous total dissipation
 $P_D: 0.6 W (T_a = 25^\circ C)$



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

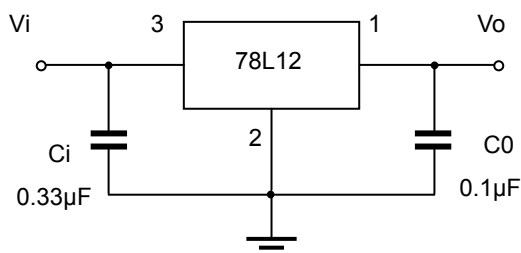
Parameter	Symbol	Value	Unit
Input Voltage	V_i	30	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	166.7	$^\circ C/W$
Operating Junction Temperature Range	T_{OPR}	-40~+125	$^\circ C$
Storage Temperature Range	T_{STG}	-65~+150	$^\circ C$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=19V, I_o=40mA, C_i=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output voltage	V_o	$25^\circ C$	11.5	12	12.5	V	
		0-125 $^\circ C$	$14V \leq V_i \leq 27V, I_o = 1mA-40mA$	11.4	12	12.6	V
			$I_o = 1mA-70mA$	11.4	12	12.6	V
Load Regulation	ΔV_o	$I_o = 1mA-100mA$	$25^\circ C$	22	100	mV	
		$I_o = 1mA-40mA$	$25^\circ C$	13	50	mV	
Line regulation	ΔV_o	$14.5V \leq V_i \leq 27V$	$25^\circ C$	55	250	mV	
		$16V \leq V_i \leq 27V$	$25^\circ C$	49	200	mV	
Quiescent Current	I_q	$25^\circ C$	4.3	6.5	mA		
Quiescent Current Change	ΔI_q	$16V \leq V_i \leq 27V$	0-125 $^\circ C$		1.5	mA	
	ΔI_q	$1mA \leq I_o \leq 40mA$	0-125 $^\circ C$		0.1	mA	
Output Noise Voltage	V_N	10Hz $\leq f \leq$ 100KHz	$25^\circ C$	70		$\mu V/V_o$	
Ripple Rejection	RR	$15V \leq V_i \leq 25V, f=120Hz$	0-125 $^\circ C$	37	42	dB	
Dropout Voltage	V_d	$25^\circ C$		1.7		V	

* Pulse test.

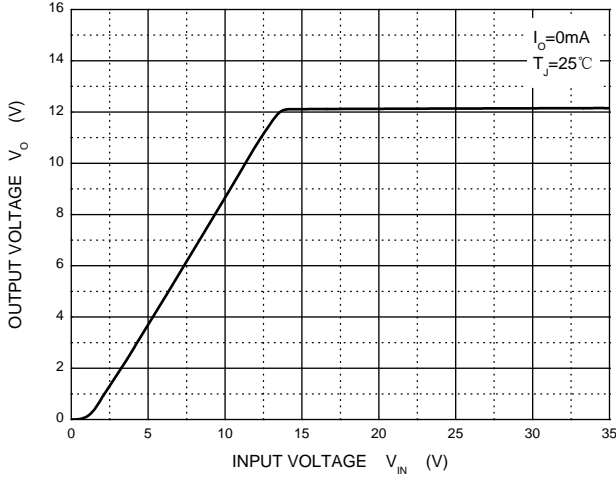
TYPICAL APPLICATION



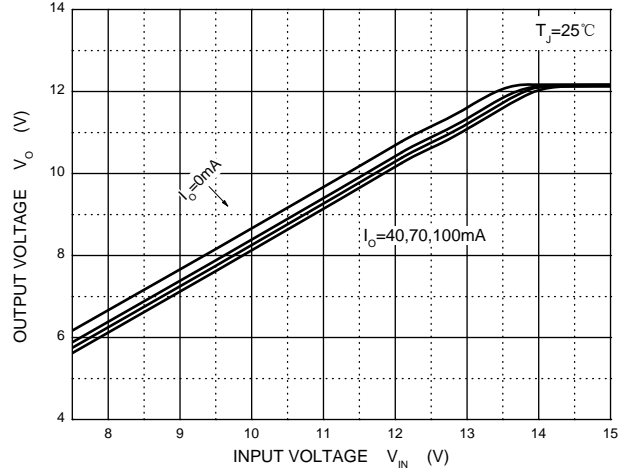
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulator pins.

Typical Characteristics

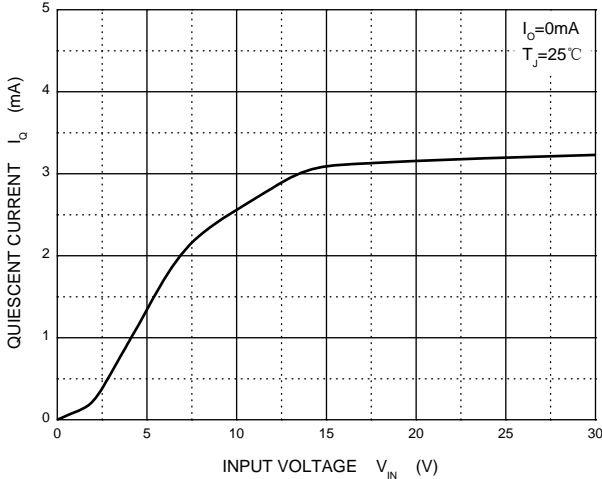
Output Characteristics



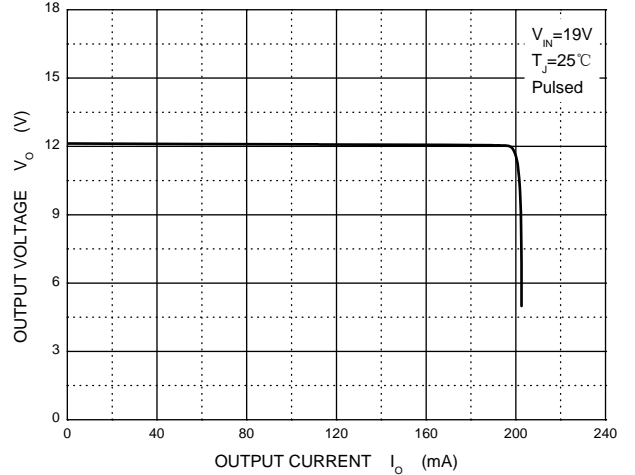
Dropout Characteristics



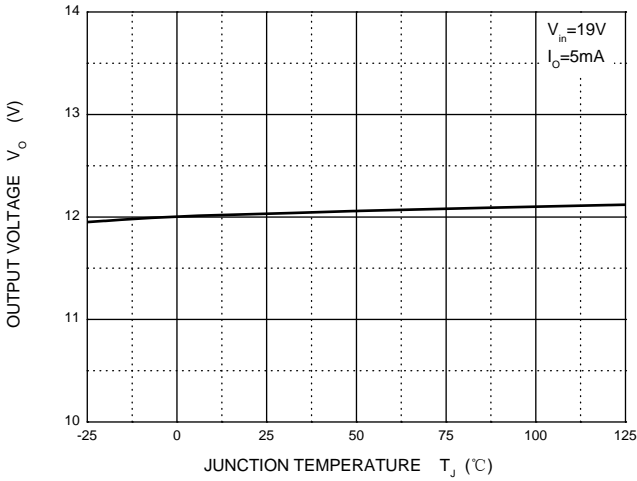
Quiescent Current



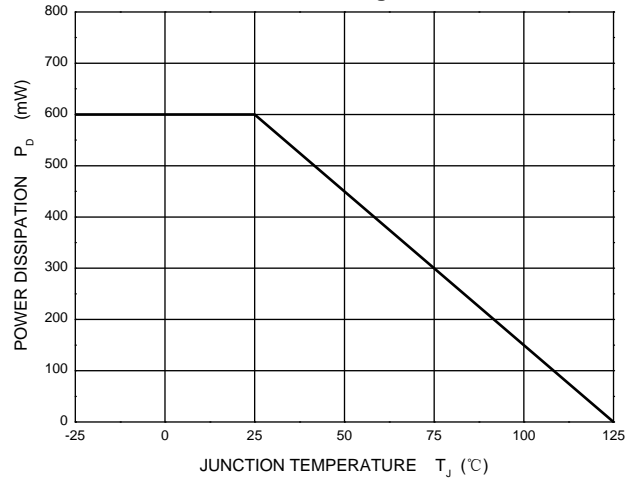
Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature

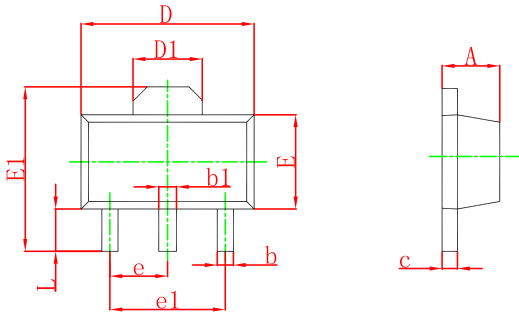


Power Derating Curve



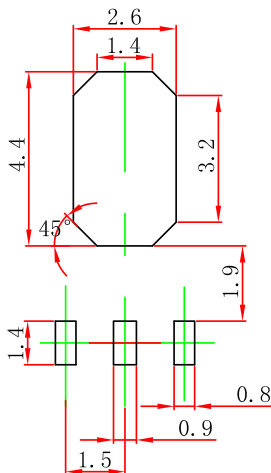
Outlitne Drawing

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: ±0.05mm.
 3. The pad layout is for reference purposes only.

PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	G.W.(Kg)
SOT-89-3L	7'	330	1000	203×203×195	40000	438×438×220	180000

Important Notice and Disclaimer

Microdiode Electronics (Jiangsu) reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

Microdiode Electronics (Jiangsu) makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, not does Microdiode Electronics (Jiangsu) assume any liability for application assistance or customer product design. Microdiode Electronics (Jiangsu) does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of Microdiode Electronics (Jiangsu).

Microdiode Electronics (Jiangsu) products are not authorized for use as critical components in life support devices or systems without express written approval of Microdiode Electronics (Jiangsu).

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Linear Voltage Regulators](#) category:

Click to view products by [Microdiode Electronics](#) manufacturer:

Other Similar products are found below :

[LV56831P-E](#) [LV5684PVD-XH](#) [MCDTSA6-2R](#) [L4953G](#) [L7815ACV-DG](#) [PQ3DZ53U](#) [LV56801P-E](#) [TCR3DF13,LM\(CT](#)
[TCR3DF39,LM\(CT](#) [TLE42794G](#) [L78L05CZ/1SX](#) [L78LR05DL-MA-E](#) [L78MR05-E](#) [033150D](#) [033151B](#) [090756R](#) [636416C](#)
[NCV78M15BDTG](#) [702482B](#) [714954EB](#) [TLE42794GM](#) [TLE42994GM](#) [ZMR500QFTA](#) [BA033LBSG2-TR](#) [NCV78M05ABDTRKG](#)
[NCV78M08BDTRKG](#) [NCP7808TG](#) [NCV571SN12T1G](#) [LV5680P-E](#) [CAJ24C256YI-GT3](#) [L78M15CV-DG](#) [L9474N](#)
[TLS202B1MBV33HTSA1](#) [L79M05T-E](#) [NCP571SN09T1G](#) [MAX15006AASA/V+](#) [MIC5283-5.0YML-T5](#) [L4969URTR-E](#) [L78LR05D-MA-E](#)
[NCV7808BDTRKG](#) [L9466N](#) [NCP7805ETG](#) [SC7812CTG](#) [NCV7809BTG](#) [NCV571SN09T1G](#) [NCV317MBTG](#) [MC78M15CDTT5G](#)
[MC78M12CDTT5G](#) [L9468N](#) [LT1054IS8#TRPBF](#)