

## L7812 Three-terminal positive voltage regulator

### FEATURES

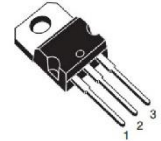
- Maximum Output Current  $I_{OM}$ : 1.5A
- Output Voltage  $V_O$ : 12V
- Continuous total dissipation  
 $P_D$ : 1.5W( $T_A=25^\circ\text{C}$ )  
 15W( $T_C=25^\circ\text{C}$ )

TO-220

1.IN

2.GND

3.OUT



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

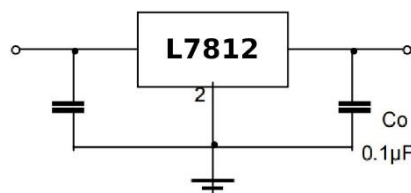
Parameter	Symbol	Value	UNIT
Input Voltage	$V_i$	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	$^\circ\text{C}/\text{W}$
Thermal Resistance from Junction to Case	$R_{\theta JC}$	8.3	$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_{OPR}$	0 ~ +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 ~ +150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

( $V_i=19\text{V}$ ,  $I_o=500\text{mA}$ ,  $C_i=0.33\mu\text{F}$ ,  $C_o=0.1\mu\text{F}$ , unless otherwise specified)

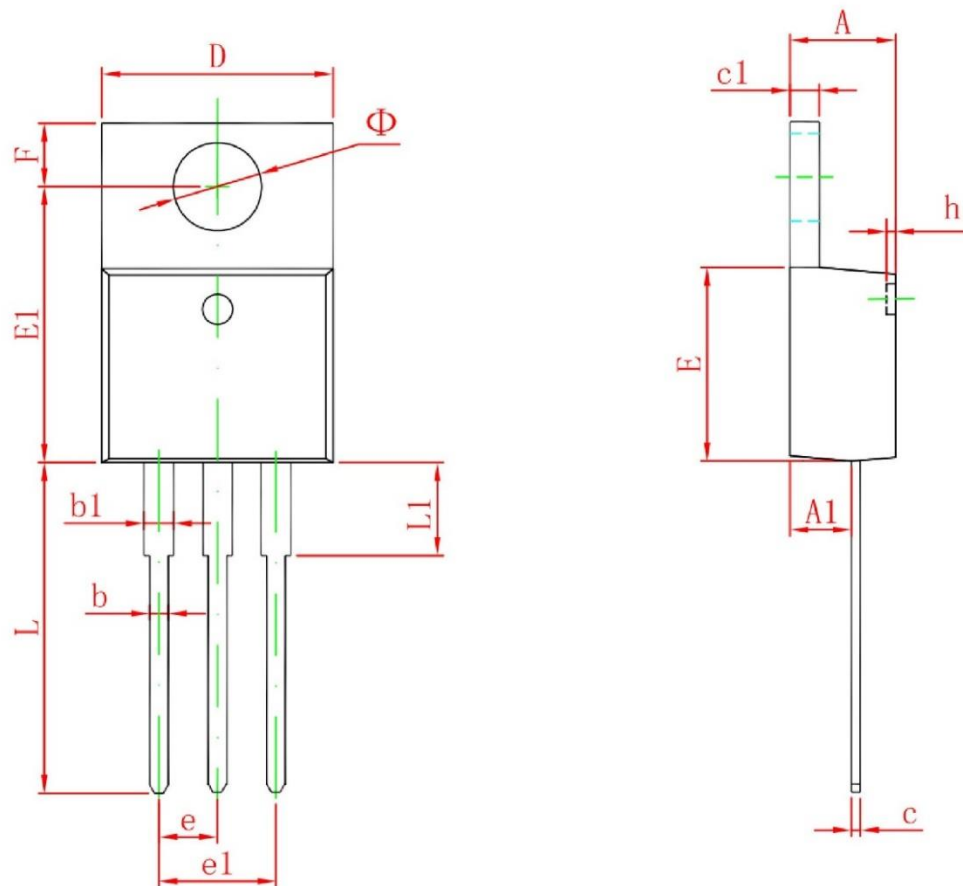
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output Voltage	$V_O$	25 $^\circ\text{C}$	11.5	12.0	12.5	V
		14.5V $\leq V_i \leq 27\text{V}$ , $I_o=5\text{mA}-1\text{A}$ , $P \leq 15\text{W}$ 0~125 $^\circ\text{C}$	11.4	12	12.6	
Load Regulation	$\Delta V_O$	$I_o=5\text{mA}-1.5\text{A}$ 25 $^\circ\text{C}$		12	240	mV
		$I_o=250\text{mA}-750\text{mA}$ 25 $^\circ\text{C}$		4	120	
Line Regulation	$\Delta V_O$	14.5V $\leq V_i \leq 30\text{V}$ 25 $^\circ\text{C}$		10	240	mV
		16V $\leq V_i \leq 22\text{V}$ 25 $^\circ\text{C}$		3	120	
Quiescent Current	$I_Q$	25 $^\circ\text{C}$		4.3	8	mA
Quiescent Current Change	$\Delta I_Q$	5mA $\leq I_o \leq 1\text{A}$ 0~125 $^\circ\text{C}$			0.5	mA
		14.5V $\leq V_i \leq 30\text{V}$ 0~125 $^\circ\text{C}$			1.0	
Output Noise Voltage	$V_N$	10Hz $\leq F \leq 100\text{KHz}$ 25 $^\circ\text{C}$		75		$\mu\text{V}$
Output Voltage Drift	$\Delta V_O/\Delta T$	$I_o=5\text{mA}$ 0~125 $^\circ\text{C}$		-1		mV/ $^\circ\text{C}$
Ripple Rejection	RR	15V $\leq V_i \leq 25\text{V}$ , F=120Hz 0~125 $^\circ\text{C}$	55	71		dB
Dropout Voltage	$V_D$	$I_o=1\text{A}$ 25 $^\circ\text{C}$		2		V
Output Resistance	$R_O$	F=1KHz 25 $^\circ\text{C}$		18		m $\Omega$
Short Circuit Current	$I_{SC}$	25 $^\circ\text{C}$		350		mA
Peak Current	$I_{PK}$	25 $^\circ\text{C}$		2.2		A

### TYPICAL APPLICATION



All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise.

## TO-220-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
E1	12.060	12.460	0.475	0.491
e	2.540 TYP		0.100 TYP	
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
h	0.000	0.300	0.000	0.012
L	13.400	13.800	0.528	0.543
L1	3.560	3.960	0.140	0.156
Φ	3.735	3.935	0.147	0.155

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