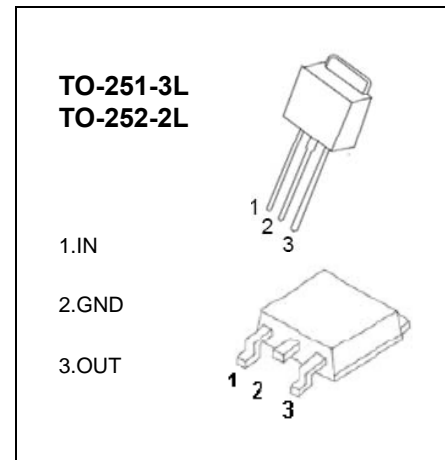


**TO-251-3L/TO-252-2L Plastic-Encapsulate Regulators**

**CJ78M12** Three-terminal positive voltage regulator

**FEATURES**

- Maximum Output current  $I_{OM}$ : 0.5 A
- Output voltage  $V_O$ : 12V
- Continuous total dissipation
  - $P_D$ : 1.25 W ( $T_a = 25^\circ\text{C}$ )
  - 15 W ( $T_c = 25^\circ\text{C}$ )



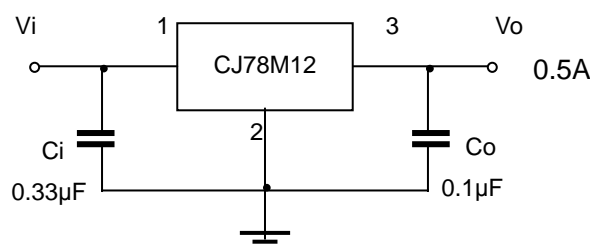
**ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)**

Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	35	V
Operating Junction Temperature Range	$T_{OPR}$	0-+125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65-+150	$^\circ\text{C}$

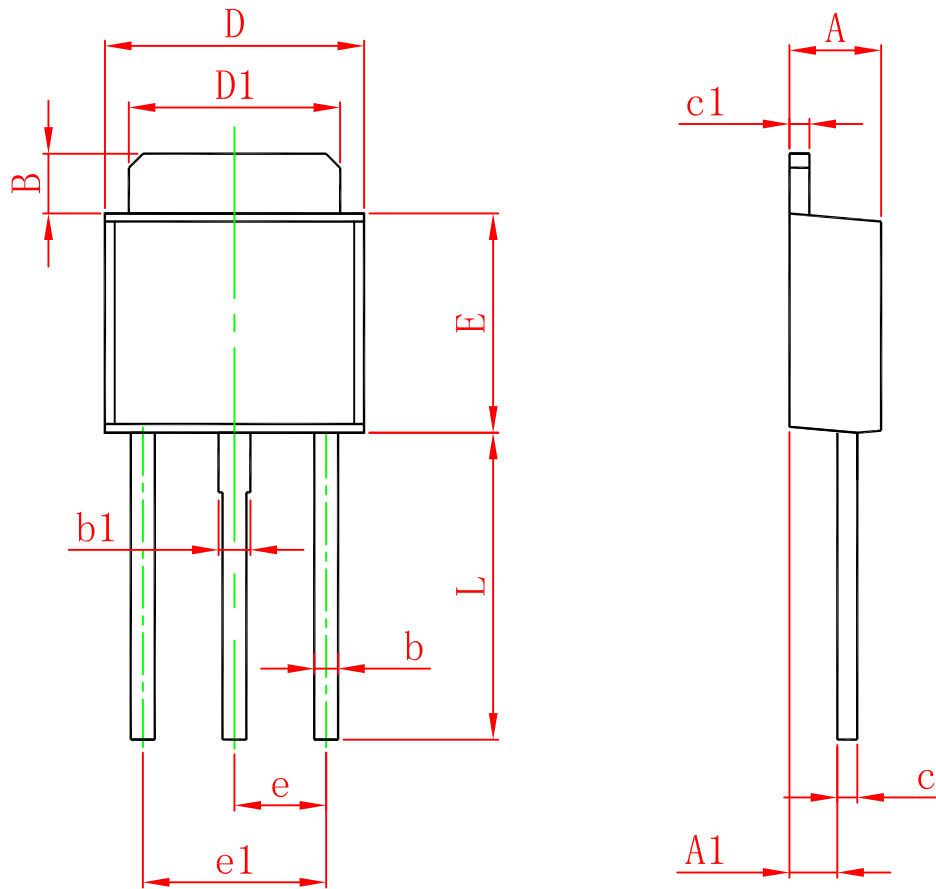
**ELECTRICAL CHARACTERISTICS ( $V_i=19\text{V}, I_o=350\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$ , unless otherwise specified )**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output Voltage	$V_o$		25 $^\circ\text{C}$	11.5	12	12.5	V
		$14.5 \leq V_i \leq 27\text{V}, I_o=5\text{mA}-350\text{mA}$ $P_o \leq 1.25\text{W}$	0-125 $^\circ\text{C}$	11.4	12	12.6	V
Load Regulation	$\Delta V_o$	$I_o=5\text{mA}-500\text{mA}$	25 $^\circ\text{C}$		25	240	mV
		$I_o=5\text{mA}-200\text{mA}$	25 $^\circ\text{C}$		10	120	mV
Line Regulation	$\Delta V_o$	$14.5\text{V} \leq V_i \leq 30\text{V}, I_o=200\text{mA}$	25 $^\circ\text{C}$		10	100	mV
		$16\text{V} \leq V_i \leq 30\text{V}, I_o=200\text{mA}$	25 $^\circ\text{C}$		3	50	mV
Quiescent Current	$I_q$		25 $^\circ\text{C}$		4.6	6	mA
Quiescent Current Change	$\Delta I_q$	$14.5\text{V} \leq V_i \leq 30\text{V}, I_o=200\text{mA}$	0-125 $^\circ\text{C}$			0.8	mA
	$\Delta I_q$	$5\text{mA} \leq I_o \leq 350\text{mA}$	0-125 $^\circ\text{C}$			0.5	mA
Output Noise Voltage	$V_N$	$10\text{Hz} \leq f \leq 100\text{KHz}$	25 $^\circ\text{C}$		75		$\mu\text{V}$
Ripple Rejection	RR	$15 \leq V_i \leq 25\text{V}, f=120\text{Hz}, I_o=300\text{mA}$	0-125 $^\circ\text{C}$	55	80		dB
Dropout Voltage	$V_d$	$I_o=350\text{mA}$	25 $^\circ\text{C}$		2		V
Short Circuit Current	$I_{sc}$	$V_i=19\text{V}$	25 $^\circ\text{C}$		240		mA
Peak Current	$I_{pk}$		25 $^\circ\text{C}$		0.7		A

**TYPICAL APPLICATION**



# TO-251-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	1.050	1.350	0.042	0.054
B	1.350	1.650	0.053	0.065
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	5.700	0.213	0.224
e	2.300 TYP.		0.091 TYP.	
e1	4.500	4.700	0.177	0.185
L	7.500	7.900	0.295	0.311