

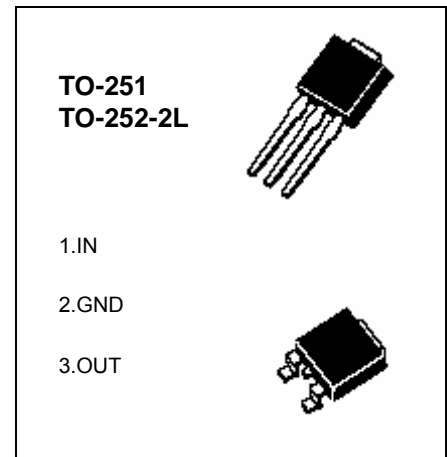


**TO-251/TO-252-2L Plastic-Encapsulate Transistors**

**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 ( $T_a = 25\text{ }^\circ\text{C}$ )
  - 15 W ( $T_c = 25\text{ }^\circ\text{C}$ )



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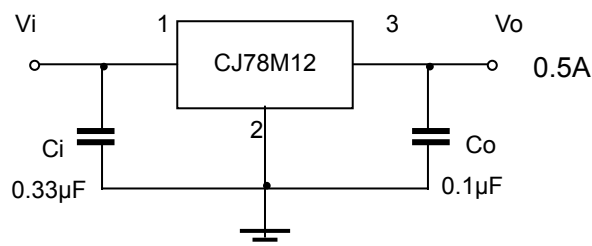
**ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)**

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**



# Typical Characteristics

CJ78MXX

