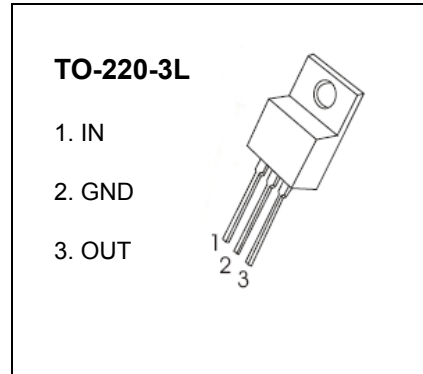


TO-220-3L Plastic-Encapsulate Regulators

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



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	$^\circ\text{C/W}$
Thermal Resistance from Junction to Case	$R_{\theta JC}$	8.3	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	0~+15 $\text{ }^\circ\text{C}$	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^\circ\text{C}$

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

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

TYPICAL APPLICATION

