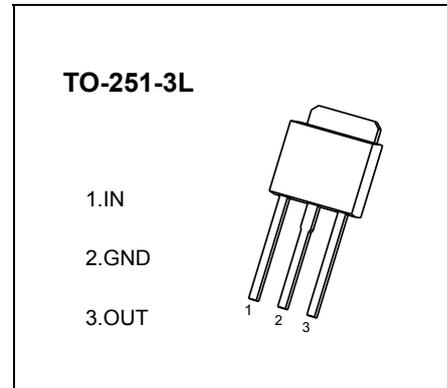


TO-251-3L Plastic-Encapsulate Regulators

CJ78M12 Three-terminal positive voltage regulator

FEATURES

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



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

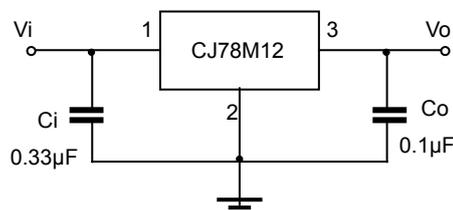
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	80	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	-25~+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65~+150	$^\circ\text{C}$

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
		$14.5\text{V} \leq V_i \leq 27\text{V}$, $I_o=5\text{mA}-350\text{mA}$	-25-125 $^\circ\text{C}$	11.4	12	12.6	V
Load Regulation	ΔV_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	ΔV_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	ΔI_q	$14.5\text{V} \leq V_i \leq 30\text{V}$, $I_o=200\text{mA}$	-25-125 $^\circ\text{C}$			0.8	mA
	ΔI_q	$5\text{mA} \leq I_o \leq 350\text{mA}$	-25-125 $^\circ\text{C}$			0.5	mA
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$	25 $^\circ\text{C}$		75		$\mu\text{V}/V_o$
Ripple Rejection	RR	$15 \leq V_i \leq 25\text{V}$, $f=120\text{Hz}$, $I_o=300\text{mA}$	-25-125 $^\circ\text{C}$	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

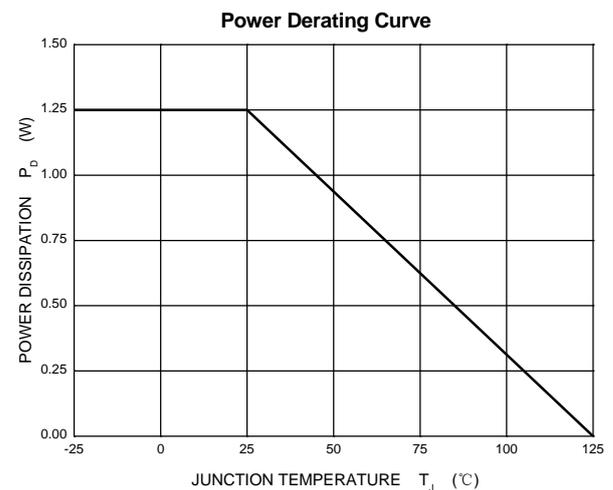
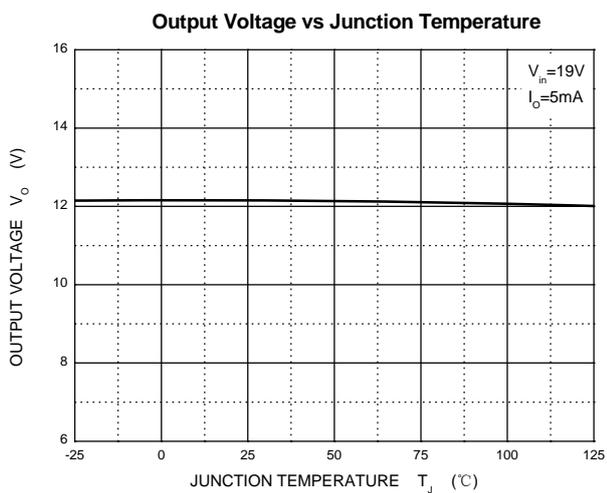
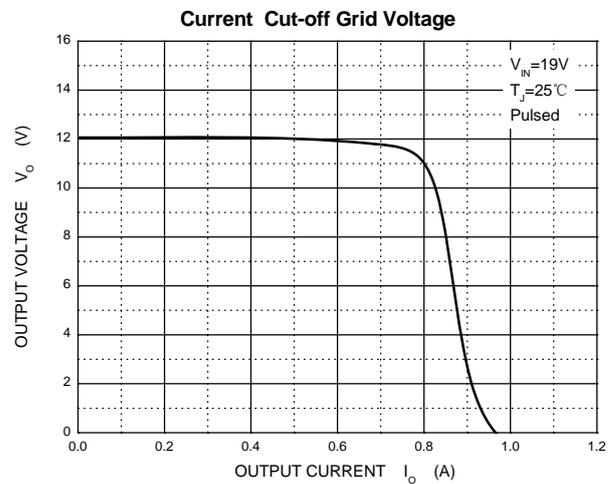
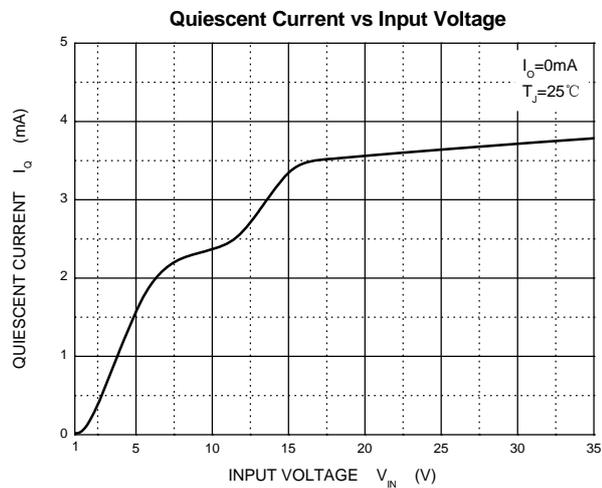
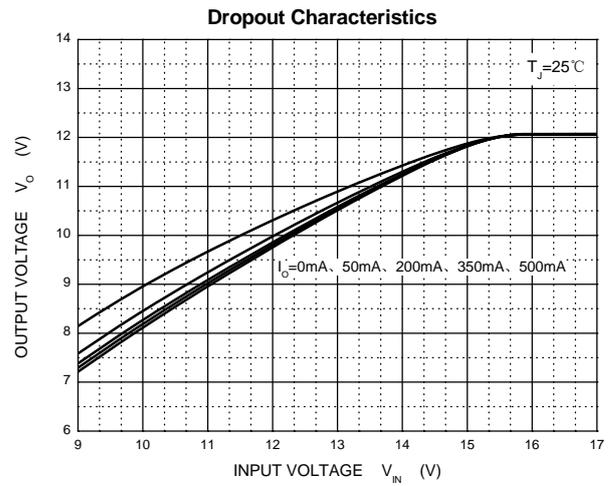
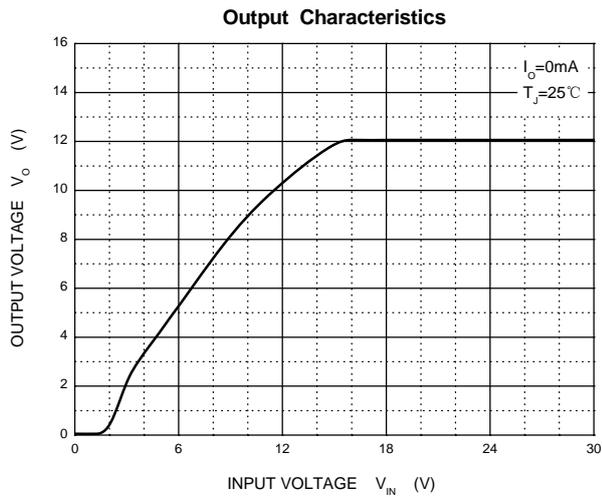
* Pulse test.

TYPICAL APPLICATION

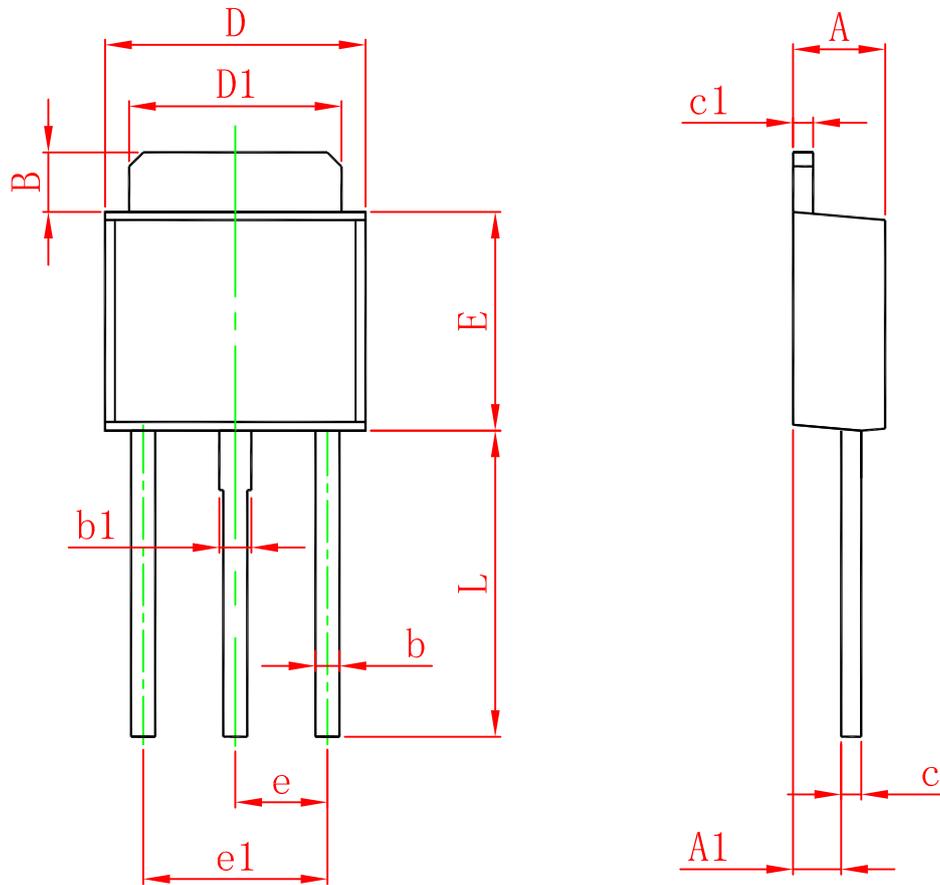


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

Typical Characteristics



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