

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

CJ78M12 Three-terminal positive voltage regulator

FEATURES

Maximum Output current I_{OM} : 0.5 A

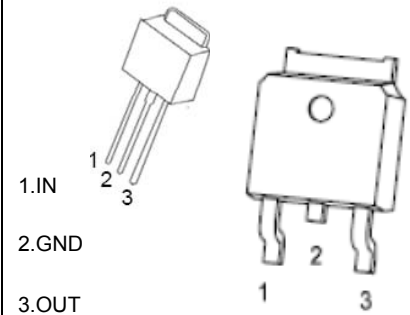
Output voltage V_O : 12V

Continuous total dissipation

P_D : 1.25 W ($T_a = 25^\circ\text{C}$)

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

TO-251-3L
TO-252-2L



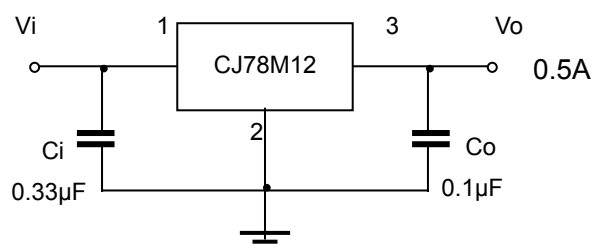
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

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	$^\circ\text{C}$

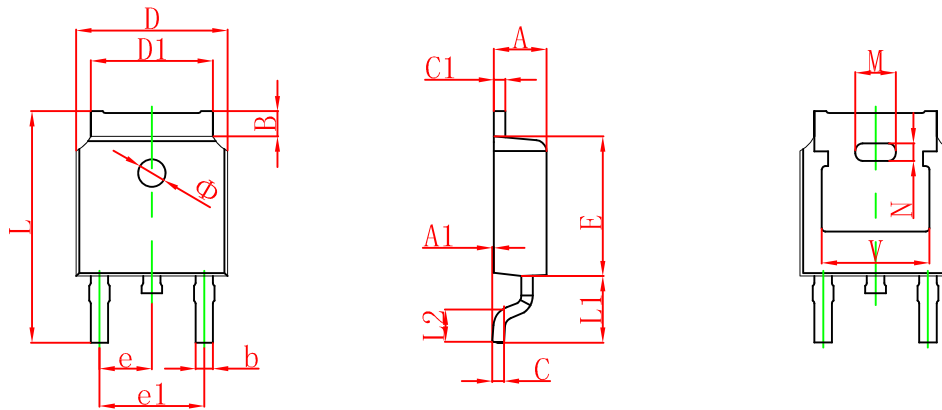
ELECTRICAL CHARACTERISTICS ($V_i=19\text{V}$, $I_o=350\text{mA}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Output Voltage	Vo		25°C	11.5	12	12.5	V
		14.5≤Vi≤27V, Io=5mA-350mA Po≤ 1.25W	0-125°C	11.4	12	12.6	V
Load Regulation	ΔVo	Io=5mA-500mA	25°C		25	240	mV
		Io=5mA-200mA	25°C		10	120	mV
Line Regulation	ΔVo	14.5V≤Vi≤30V, Io=200mA	25°C		10	100	mV
		16V≤Vi≤30V, Io=200mA	25°C		3	50	mV
Quiescent Current	Iq		25°C		4.6	6	mA
Quiescent Current Change	ΔIq	14.5V≤Vi≤30V, Io=200mA	0-125°C			0.8	mA
	ΔIq	5mA≤Io≤350mA	0-125°C			0.5	mA
Output Noise Voltage	VN	10Hz≤f≤100KHz	25°C		75		μV
Ripple Rejection	RR	15≤Vi≤25V,f=120Hz,Io=300mA	0-125°C	55	80		dB
Dropout Voltage	Vd	Io=350mA	25°C		2		V
Short Circuit Current	Isc	Vi=19V	25°C		240		mA
Peak Current	Ipk		25°C		0.7		A

TYPICAL APPLICATION

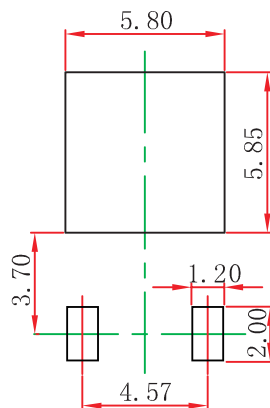


TO-252(4R)-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.380	0.087	0.094
A1	0.000	0.100	0.000	0.004
B	0.800	1.400	0.031	0.055
b	0.710	0.810	0.028	0.032
c	0.460	0.560	0.018	0.022
c1	0.460	0.560	0.018	0.022
D	6.500	6.700	0.256	0.264
D1	5.130	5.460	0.202	0.215
E	6.000	6.200	0.236	0.244
e	2.286 TYP.		0.090 TYP.	
e1	4.327	4.727	0.170	0.186
M	1.778REF.		0.070REF.	
N	0.762REF.		0.018REF.	
L	9.800	10.400	0.386	0.409
L1	2.9REF.		0.114REF.	
L2	1.400	1.700	0.055	0.067
V	4.830 REF.		0.190 REF.	
Φ	1.100	1.300	0.043	0.051

TO-252(4R)-2L Suggested Pad Layout



Note:

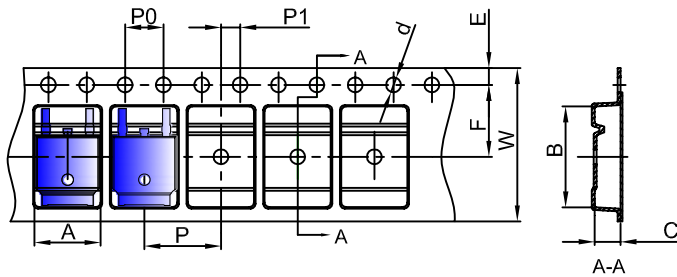
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

JCET reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JCET does not assume any liability arising out of the application or use of any product described herein.

TO-252 Tape and reel

TO-252 Embossed Carrier Tape

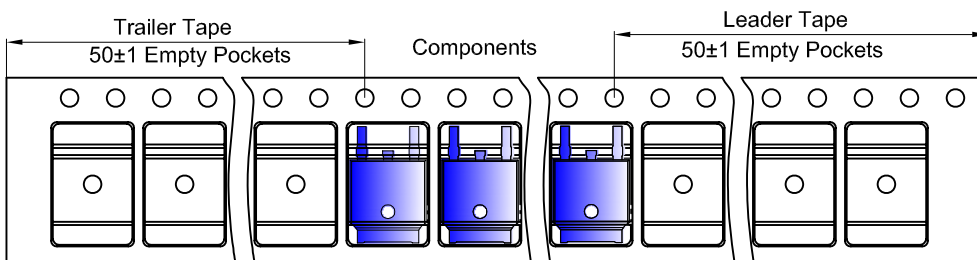


Packaging Description:

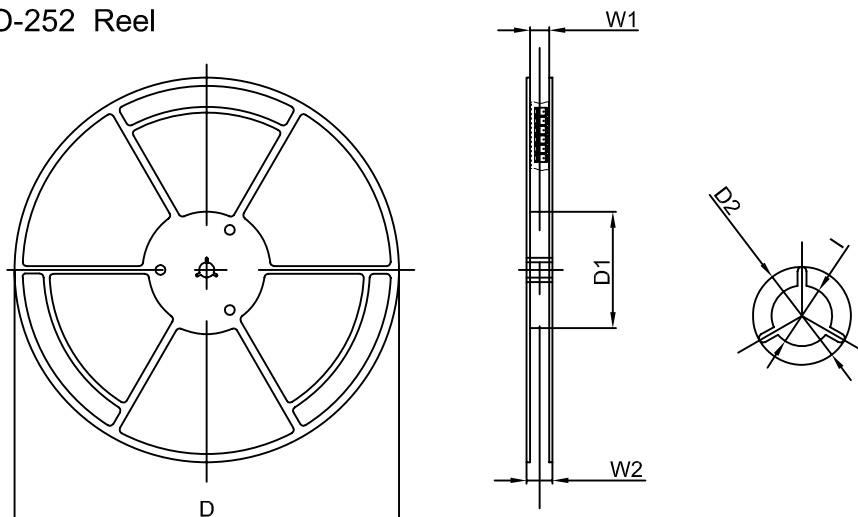
TO-252 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 25,00 units per 13" or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
TO-252	6.90	10.50	2.70	Ø1.55	1.75	7.50	4.00	8.00	2.00	16.00
(Tolerance)	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+0.3/-0.1

TO-252 Tape Leader and Trailer



TO-252 Reel



Dimensions are in millimeter						
Reel Option	D	D1	D2	W1	W2	I
13"Dia	330.00	100.00	Ø21.00	16.40	21.00	Ø13.00
Tolerance	+/-2	+/-1	+/-1	+/-1	+/-1	+/-1

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
2,500 pcs	13inch	2,500 pcs	340×336×29	25,000 pcs	353×346×365	14.04