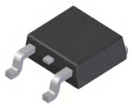
78M12
Three-terminalpositive voltage regulator

FEATURE

- Low gate charge
- Low C_{iss}
- Fast switching
- 100% avalanche tested
- Improved dv/dt capability

Maximum output current
I_{OM}: 0.5 A
Output voltage
V_O: 12V
Continuous total dissipation
P_D: 1.25 W (T_a= 25 ℃)





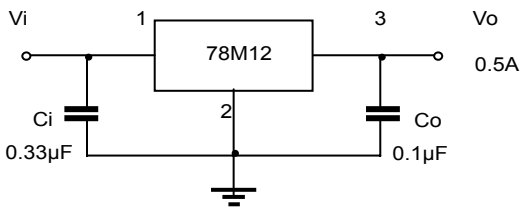
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	25	V
Operating Junction Temperature Range	T_{OPR}	0-+125	℃
Storage Temperature Range	T_{STG}	-65-+150	℃

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JINCTION TEMPERATURE

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

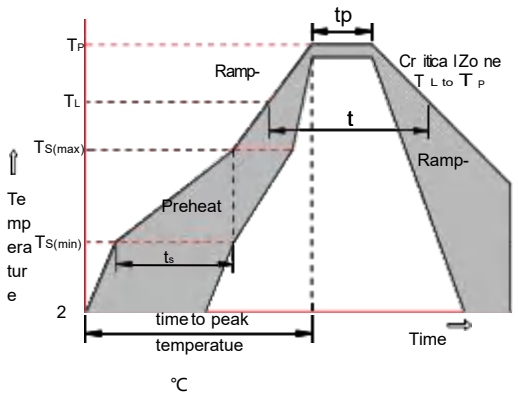
TYPICAL APPLICATION



Soldering parameters

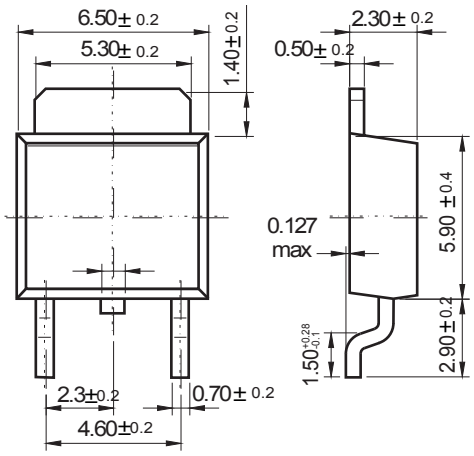
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃ of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

FIG5: Reflow condition

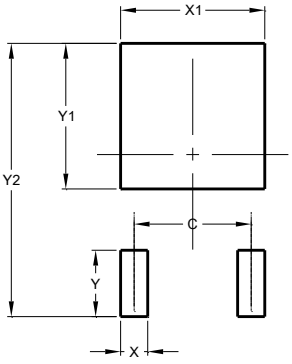


Package Dimensions & Suggested Pad Layout

TO-252



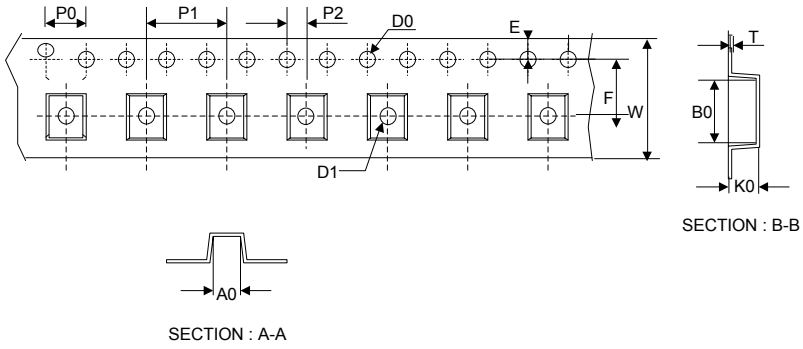
Dimensions in inches and (millimeters)



Dimensions	Value (in mm)
C	4.55
X	1.50
X1	5.80
Y	2.70
Y1	6.00
Y2	10.90

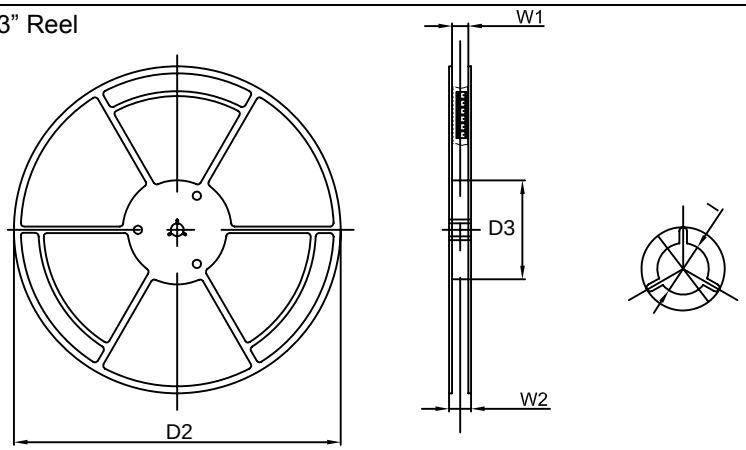
Tape & rell specification

Tape



Symbol	Dimension (mm)
P0	4.00±0.20
P1	8.00±0.20
P2	2.00±0.20
D0	1.55±0.15
D1	1.55±0.20
E	1.75±0.20
F	7.50±0.20
W	16.00±0.20
A0	7.10±0.20
B0	10.50±0.20
K0	2.70±0.20
T	0.30±0.10

13” Reel



D2	330.0±5.0
D3	100.0±4.0
W1	20.0±5.0
W2	25.0±5.0
I	13.0±2.0

Quantity: 2500PCS