

Three-terminal positive voltage regulator

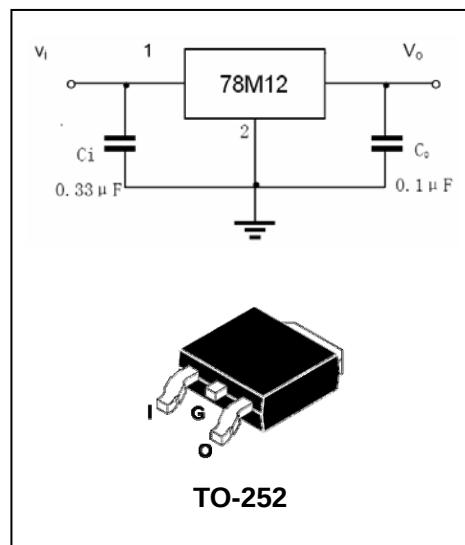
TSD78M12

FEATURES

- Output current in excess of 0.5A.
- No external components.
- Internal thermal overload protection.
- Internal short circuit current-limiting.
- Output transistor safe-area compensation.



Lead-free



APPLICATIONS

- Three-terminal positive voltage regulator.

MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
V_I	Input voltage	35	V
P_D	Power Dissipation	1.25	W
$R_{\theta JA}$	Thermal Resistance Junction-Air	92	°C/W
T_{OPR}	Operating junction temperature	0 to 150	°C
T_{stg}	Storage temperature range	-65 to +150	°C

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ELECTRICAL CHARACTERISTICS

($V_{IN}=19V$, $I_O=350mA$, $C_{IN}=0.33\mu F$, $C_O=0.1\mu f$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_O	$I_O=350mA$, $V_{IN}=19V$ $5mA \leq I_O \leq 350mA$ $14.5V \leq V_{IN} \leq 27V$	11.5 11.5 11.5	12 12 12	12.5 12.6 12.6	V
Load regulation(Note1)	ΔReg_{load}	$5mA \leq I_O \leq 500mA$ $5mA \leq I_O \leq 200mA$			240 120	mV
Line regulation(Note1)	ΔReg_{line}	$14.5V \leq V_{IN} \leq 30V$, $I_O=200mA$ $16V \leq V_{IN} \leq 30V$, $I_O=200mA$			100 50	mV
Quiescent Current	I_Q	$V_{IN}=19V$, $I_O=350mA$		4.8	8.0	mA
Quiescent Current Change	ΔI_Q	$5mA \leq I_O \leq 350mA$ $14.5V \leq V_{IN} \leq 30V$, $I_O=200mA$			0.5 0.8	mA
Output Voltage Drift	$\Delta V / \Delta T$	$I_O=5mA$, $T_J=0$ to $+125^\circ C$		-0.5		mV/ $^\circ C$
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$		75		$\mu V/V_O$
Ripple Rejection	RR	$f=120Hz$, $I_O=300mA$, $V_I=15V$ to $25V$	55			dB
Dropout Voltage	V_D	$T_J=+25^\circ C$, $I_O=500mA$		2.0		V
Short Circuit Current	I_{SC}	$V_I=35V$, $T_J=25^\circ C$		300		mA
Peak Current	I_{PK}	$T_J=25^\circ C$		700		mA

Note:1.Load and line regulation are specified at constant,junction temperature.Change in V_O due to Heating effects must be taken into account separately.Pulse testing with low duty is used.

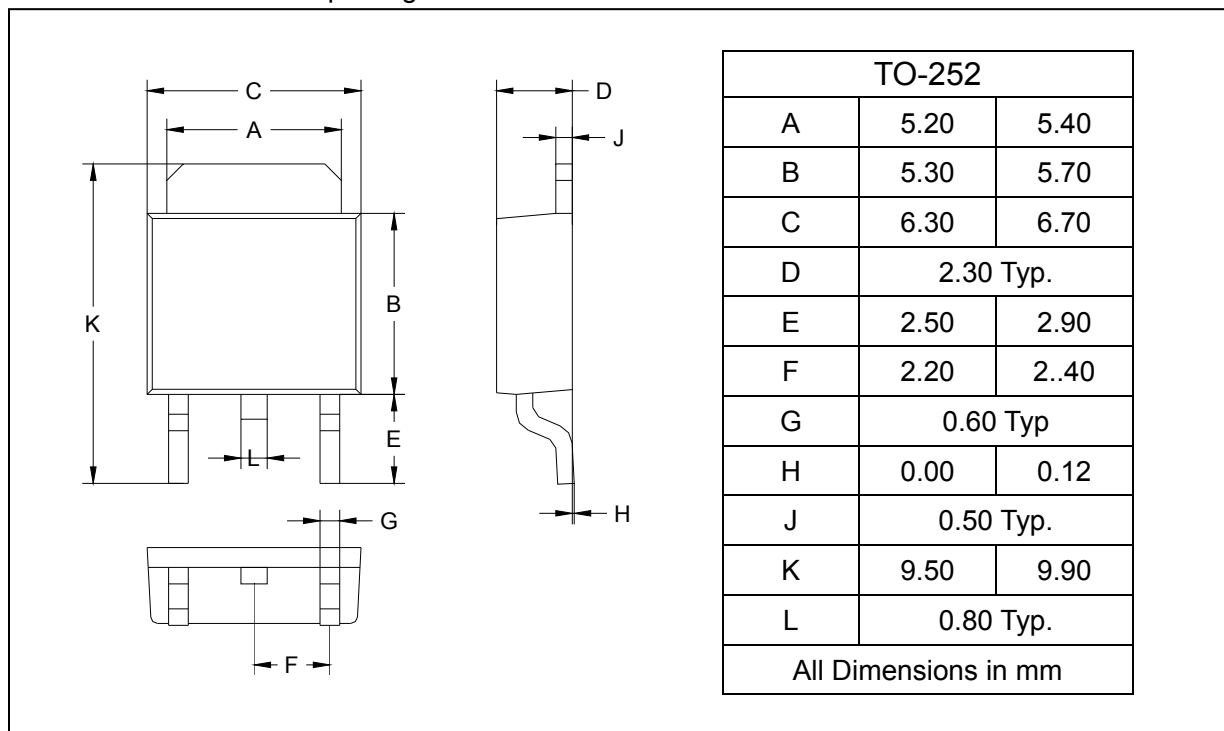
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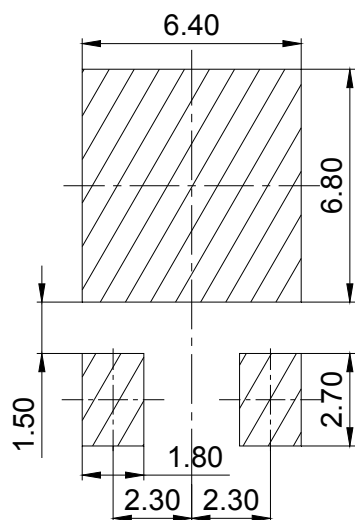
PACKAGE OUTLINE

Plastic surface mounted package

TO-252



SOLDERING FOOTPRINT



Unit:mm

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PACKAGE INFORMATION

Device	Package	Shipping
BL78M12	TO-252	80PCS/Tube
		2500PCS/Tape&Reel