

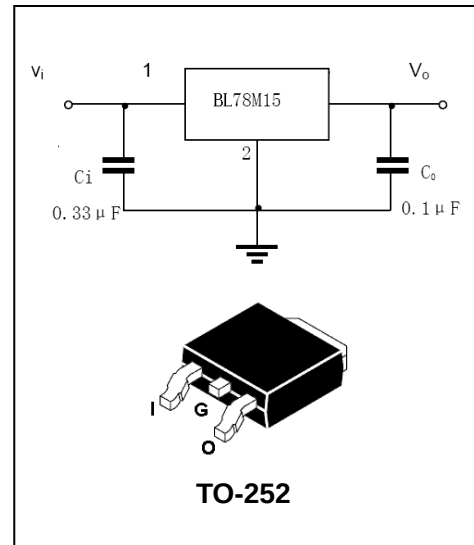
Three-terminal positive voltage regulator

BL78M15

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

HF



APPLICATIONS

- Three-terminal positive voltage regulator

Ordering Information

Part Number	Package	Shipping	Marking Code
BL78M15	TO-252	80 pcs / Tube or 2500 pcs / Tape & Reel	78M15

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	$^{\circ}\text{C}/\text{W}$
T_{OPR}	Operating junction temperature	-40 to 125	$^{\circ}\text{C}$
T_j, T_{stg}	Storage temperature range	-65 to +150	$^{\circ}\text{C}$

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ELECTRICAL CHARACTERISTICS

($V_{IN}=23V$, $I_O=350mA$, $C_{IN}=0.33\mu F$, $C_O=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_O	$I_O=350mA$, $V_{IN}=23V$ $5mA \leq I_O \leq 350mA$ $17.5V \leq V_{IN} \leq 30V$	14.4 14.25 14.25	15	15.6 15.75 15.75	V
Load regulation(Note1)	ΔReg_{load}	$5mA \leq I_O \leq 500mA$ $5mA \leq I_O \leq 200mA$			300 150	mV
Line regulation(Note1)	ΔReg_{line}	$17.5V \leq V_{IN} \leq 30V$, $I_O=200mA$ $20V \leq V_{IN} \leq 30V$, $I_O=200mA$			100 50	mV
Quiescent Current	I_Q	$V_{IN}=23V$, $I_O=350mA$		4.1	6.0	mA
Quiescent Current Change	ΔI_Q	$5mA \leq I_O \leq 350mA$ $17.5V \leq V_{IN} \leq 30V$, $I_O=200mA$			0.5 0.8	mA
Output Voltage Drift	$\Delta V / \Delta T$	$I_O=5mA$, $T_J=0$ to $+125^\circ C$		-1		mV/ $^\circ C$
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$		100		$\mu V/V_O$
Ripple Rejection	RR	$f=120Hz$, $I_O=300mA$, $V_I=18.5V$ to $28.5V$	54			dB
Dropout Voltage	V_D	$T_A=+25^\circ C$, $I_O=500mA$		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.

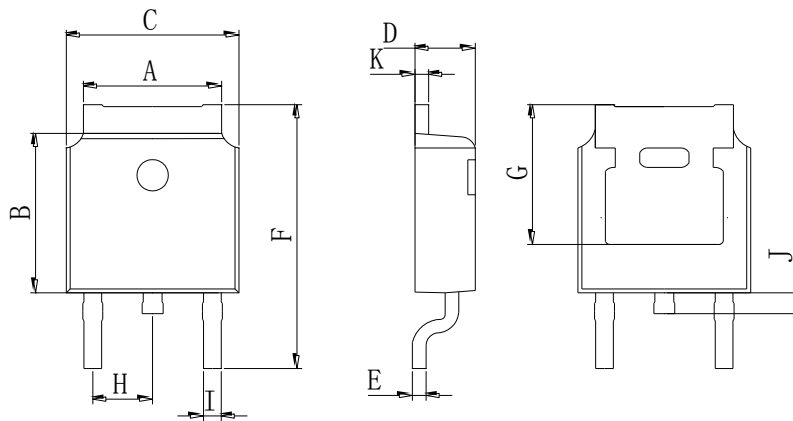
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PACKAGE OUTLINE

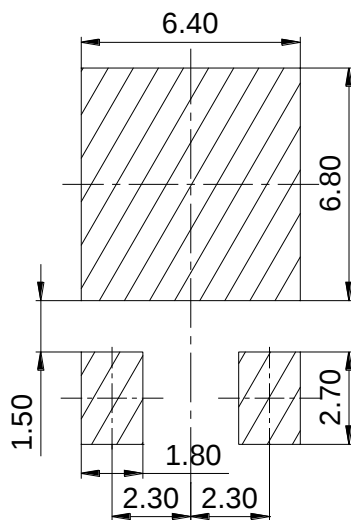
Plastic surface mounted package

TO-252



TO-252		
A	5.05	5.65
B	5.80	6.40
C	6.25	6.85
D	2.20	2.40
E	0.40	0.60
F	9.71	10.31
G	5.05	5.65
H	2.10	2.50
I	0.70	0.90
J	0.50	0.7
K	0.40	0.60
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit: mm