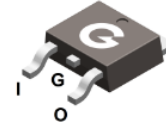
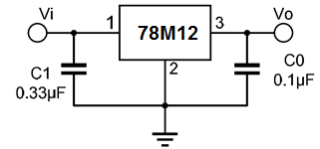


Features

- Output current up to 0.5A
- Thermal overload protection
- Short circuit protection

HF



TO-252

Mechanical Data

- Case: TO-252
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BL78M12	TO-252	80 pcs / Tube or 2500 pcs / Tape & Reel	78M12

Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_I	35	V

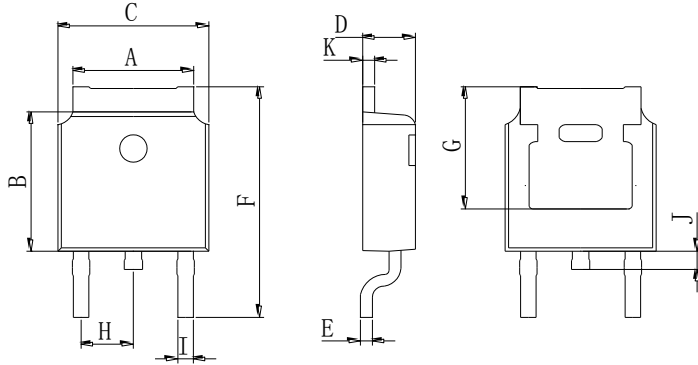
Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-to-Air	$R_{\theta JA}$	92	$^\circ\text{C/W}$
Operating Temperature Range	T_{OPR}	-25 ~ +125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 ~ +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output Voltage	V_o	$V_i = 19\text{V}$, $I_o = 350\text{mA}$	11.5	12.0	12.5	V
		$5\text{mA} \leq I_o \leq 350\text{mA}$	11.5	12.0	12.6	V
		$14.5\text{V} \leq V_i \leq 27\text{V}$	11.5	12.0	12.6	V
Line Regulation	ΔV_o	$14.5\text{V} \leq V_i \leq 30\text{V}$, $I_o = 200\text{mA}$	-	-	100	mV
		$16\text{V} \leq V_i \leq 30\text{V}$, $I_o = 200\text{mA}$	-	-	50	mV
Load Regulation	ΔV_o	$5\text{mA} \leq I_o \leq 500\text{mA}$	-	-	240	mV
		$5\text{mA} \leq I_o \leq 200\text{mA}$	-	-	120	mV
Quiescent Current	I_Q	$V_i = 19\text{V}$, $I_o = 350\text{mA}$	-	4.8	8	mA
Quiescent Current Change	ΔI_Q	$5\text{mA} \leq I_o \leq 350\text{mA}$	-	-	0.5	mA
		$14.5\text{V} \leq V_i \leq 30\text{V}$, $I_o = 200\text{mA}$	-	-	0.8	mA
Output Voltage Drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$, $0 \leq T_J \leq 125^\circ\text{C}$	-	-0.5	-	mV/ $^\circ\text{C}$
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{kHz}$, $T_A = 25^\circ\text{C}$	-	75	-	$\mu\text{V}/V_o$
Ripple Rejection	RR	$15\text{V} \leq V_i \leq 25\text{V}$, $f = 120\text{Hz}$ $I_o = 300\text{mA}$	55	-	-	dB
Dropout Voltage	V_D	$I_o = 500\text{mA}$, $T_J = 25^\circ\text{C}$	-	2	-	V
Peak Current	I_{PK}	$T_J = 25^\circ\text{C}$	-	700	-	mA
Short Circuit Current	I_{SC}	$V_i = 35\text{V}$, $T_A = 25^\circ\text{C}$	-	300	-	mA

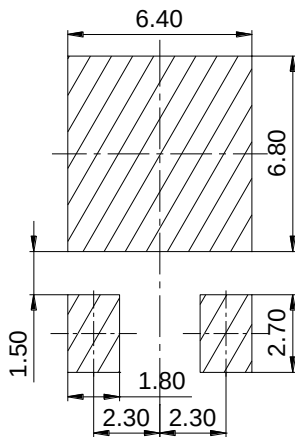
Package Outline Dimensions (Unit: mm)



TO-252		
Dimension	Min.	Max.
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	0.70
K	0.40	0.60

Mounting Pad Layout (Unit: mm)

TO-252



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