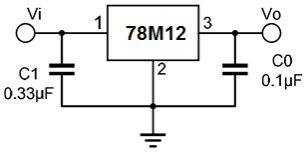
78M12

Three-terminal Positive Voltage Regulator

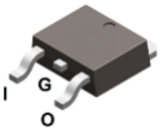
Features

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



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



TO-252

Ordering Information

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

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_I	35	V

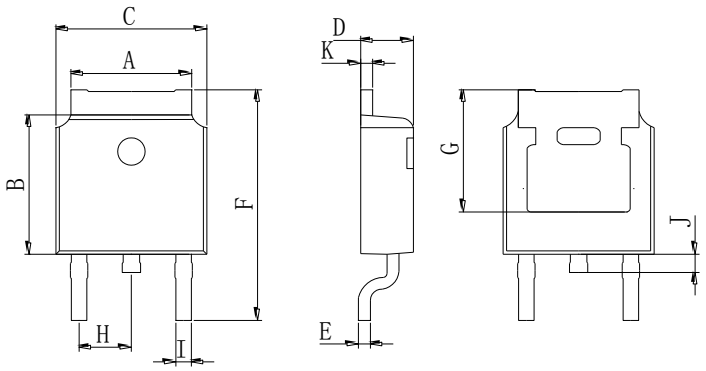
Thermal Characteristics

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

Electrical Characteristics (I_O = 350mA, V_I = 19V, C_I = 0.33μF, C_O = 0.1μF unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output Voltage	V_O	V_I = 19V, I_O = 350mA	11.5	12.0	12.5	V
		5mA ≤ I_O ≤ 350mA	11.5	12.0	12.6	V
		14.5V ≤ V_I ≤ 27V	11.5	12.0	12.6	V
Line Regulation	ΔV_O	14.5V ≤ V_I ≤ 30V, I_O = 200mA	-	-	100	mV
		16V ≤ V_I ≤ 30V, I_O = 200mA	-	-	50	mV
Load Regulation	ΔV_O	5mA ≤ I_O ≤ 500mA	-	-	240	mV
		5mA ≤ I_O ≤ 200mA	-	-	120	mV
Quiescent Current	I_Q	V_I = 19V, I_O = 350mA	-	4.8	8	mA
Quiescent Current Change	ΔI_Q	5mA ≤ I_O ≤ 350mA	-	-	0.5	mA
		14.5V ≤ V_I ≤ 30V, I_O = 200mA	-	-	0.8	mA
Output Voltage Drift	ΔV_O /ΔT	I_O = 5mA, 0 ≤ T_J ≤ 125°C	-	-0.5	-	mV/°C
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100kHz, T_A = 25°C	-	75	-	μV/V_O
Ripple Rejection	RR	15V ≤ V_I ≤ 25V, f = 120Hz I_O = 300mA	55	-	-	dB
Dropout Voltage	V_D	I_O = 500mA, T_J = 25°C	-	2	-	V
Peak Current	I_{PK}	T_J = 25°C	-	700	-	mA
Short Circuit Current	I_{SC}	V_I = 35V, T_A = 25°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