

isc Three Terminal Positive Voltage Regulator

MC7812E

FEATURES

- Output current in excess of 1 A
- Output voltage of 12V
- Internal thermal overload protection
- Output transition Safe-Area compensation
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	RATING	UNIT
V _i	DC input voltage	35	V
I _o	Output current	internally limited	
P _{tot}	Power dissipation	internally limited	
T _{OP}	Operating junction temperature	-40~125	°C
T _{stg}	Storage temperature	-55~150	°C

THERMAL CHARACTERISTICS

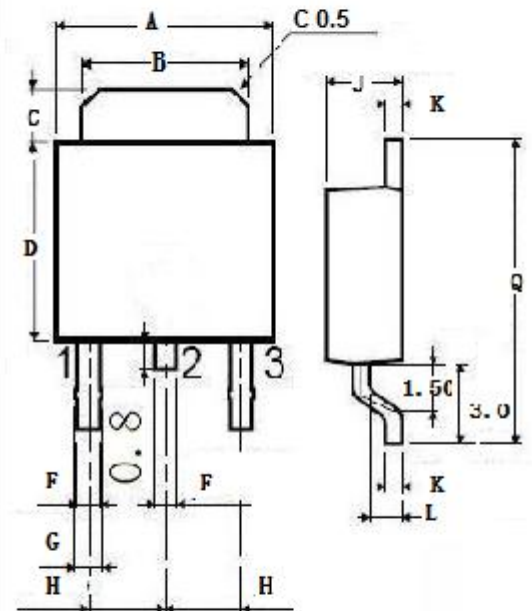
SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	5	°C/W
R _{th j-a}	Thermal Resistance, Junction to Ambient	65	°C/W

DPAK




PIN: 1. Input
2. Ground
3. Output

TO-252 package



DIM	mm	
	MIN	MAX
A	6.40	6.60
B	5.20	5.40
C	1.15	1.35
D	5.70	6.10
F	0.65	
G	0.75	
H	2.10	2.50
J	2.10	2.40
K	0.40	0.60
L	0.90	1.10
Q	9.90	10.1

isc Three Terminal Positive Voltage Regulator**MC7812E****• ELECTRICAL CHARACTERISTICS** $T_j=25^{\circ}\text{C}$ ($V_i=19\text{V}$, $I_o=0.5\text{A}$, $C_i=0.33\ \mu\text{F}$, $C_o=0.1\ \mu\text{F}$ unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V_o	Output Voltage	$V_{in}=19\text{V}$; $I_o=500\text{mA}$	11.5	12.5	V
V_o	Output Voltage	$I_o=5\ \text{mA to } 1\text{A}$; $P_o\leq 15\text{W}$; $V_{in}=14.5\ \text{to } 27\text{V}$;	11.4	12.6	V
ΔV_v	Line Regulation	$14.5\text{V}\leq V_{in}\leq 30\text{V}$ $16\text{V}\leq V_{in}\leq 22\text{V}$		240 120	mV
ΔV_i	Load Regulation	$5.0\text{mA}\leq I_o\leq 1.0\ \text{A}$  $250\text{mA}\leq I_o\leq 750\text{mA}$		240 120	mV
I_b	Quiescent Current	$V_{in}=19\text{V}$; $I_o=0.5\text{A}$		8.0	mA
Δ_{b1}	Quiescent Current Change	$5.0\text{mA}\leq I_o\leq 1.0\text{A}$		0.5	mA
Δ_{b2}	Quiescent Current Change	$14.5\text{V}\leq V_{in}\leq 30\text{V}$		1.0	mA

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