

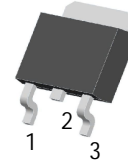


78M12 Three-terminal positive voltage regulator

FEATURES

- Maximum output current
 $I_{OM}: 0.5\text{ A}$
- Output voltage
 $V_O: 12\text{ V}$
- Continuous total dissipation
 $P_D: 1.25\text{ W} (T_a = 25\text{ }^\circ\text{C})$

TO-252



1.IN

2.GND

3.OUT

ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

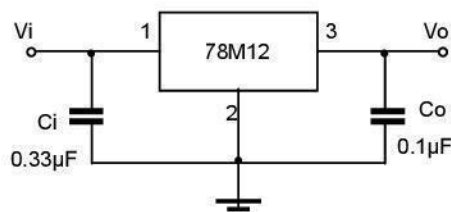
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	80	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	-25~+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65~+150	$^\circ\text{C}$

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output Voltage	V_o		25 $^\circ\text{C}$	11.5	12	12.5	V
		$14.5\text{V} \leq V_i \leq 27\text{V}, I_o=5\text{mA}-350\text{mA}$	-25-125 $^\circ\text{C}$	11.4	12	12.6	V
Load Regulation	ΔV_o	$I_o=5\text{mA}-500\text{mA}$	25 $^\circ\text{C}$		25	240	mV
		$I_o=5\text{mA}-200\text{mA}$	25 $^\circ\text{C}$		10	120	mV
Line Regulation	ΔV_o	$14.5\text{V} \leq V_i \leq 30\text{V}, I_o=200\text{mA}$	25 $^\circ\text{C}$		10	100	mV
		$16\text{V} \leq V_i \leq 30\text{V}, I_o=200\text{mA}$	25 $^\circ\text{C}$		3	50	mV
Quiescent Current	I_q		25 $^\circ\text{C}$		4.6	6	mA
Quiescent Current Change	ΔI_q	$14.5\text{V} \leq V_i \leq 30\text{V}, I_o=200\text{mA}$	-25-125 $^\circ\text{C}$			0.8	mA
		$5\text{mA} \leq I_o \leq 350\text{mA}$	-25-125 $^\circ\text{C}$			0.5	mA
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$	25 $^\circ\text{C}$		75	$\mu\text{V}/V_o$	
Ripple Rejection	RR	$15 \leq V_i \leq 25\text{V}, f=120\text{Hz}, I_o=300\text{mA}$	-25-125 $^\circ\text{C}$	55	80	dB	
Dropout Voltage	V_d	$I_o=350\text{mA}$	25 $^\circ\text{C}$		2	V	
Short Circuit Current	I_{sc}	$V_i=19\text{V}$	25 $^\circ\text{C}$		240	mA	
Peak Current	I_{pk}		25 $^\circ\text{C}$		0.7	A	

* Pulse test.

TYPICAL APPLICATION



Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

