78M08

Three-terminalpositive voltage regulator

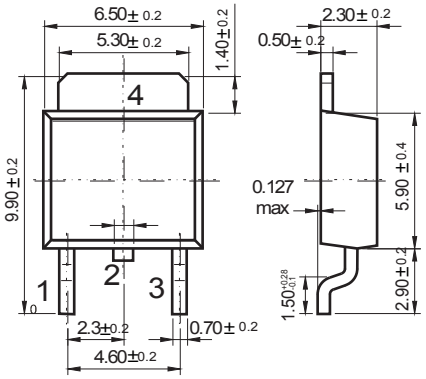
FEATURE

- Low gate charge
- Low C_{iss}
- Fast switching
- 100% avalanche tested
- Improved dv/dt capability

Maximum output current
I_{OM}: 0.5 A
Output voltage
V_O: 8V
Continuous total dissipation
P_D: 1.25 W (T_a= 25 ℃)

TO-252

Unit: mm



Dimensions in inches and (millimeters)

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

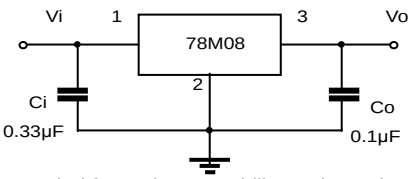
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	80	℃/W
Operating Junction Temperature Range	T_{OPR}	-40~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JINCTION TEMPERATURE (Vi=14V,Io=350mA,Ci=0.33μF,Co=0.1μF,unless otherwise specified)

Pa rameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output Voltage	Vo	T_J=25℃	7.76	8	8.24	V
		10.5≤V_i≤23V, Io=5mA-350mA	7.6	8	8.4	V
Load Regulation	ΔVo	Io=5mA-500mA,T_J=25℃		20	160	mV
		Io=5mA-200mA,T_J=25℃		10	80	mV
Line Regulation	ΔVo	10.5V≤V_i≤25V, Io=200mA,T_J=25℃		6	100	mV
		11V≤V_i≤25V, Io=200mA,T_J=25℃		2	50	mV
Quiescent Current	Iq	T_J=25℃		4.6	6	mA
Quiescent Current Change	ΔIq	10.5V≤V_i≤25V, Io=200mA			0.8	mA
	ΔIq	5mA≤I_O≤350mA			0.5	mA
Output Noise Voltage	V_N	10Hz≤ f ≤100KHz ,T_J=25℃		52		μV/Vo
Ripple Rejection	RR	11.5V≤V_i≤21.5V,f=120Hz,Io=300mA	56	80		dB
Dropout Voltage	Vd	Io=350mA ,T_J=25℃		2		V
Short Circuit Current	Isc	Vi=14V,T_J=25℃		250		mA
Peak Current	Ipk	T_J=25℃		0.5		A

* Pulse test.

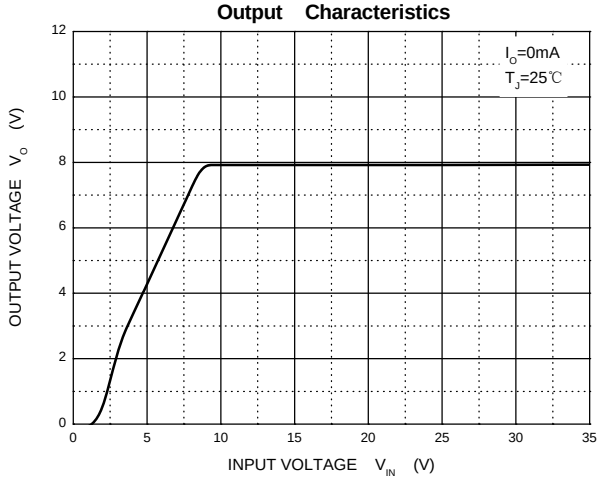
TYPICAL APPLICATION



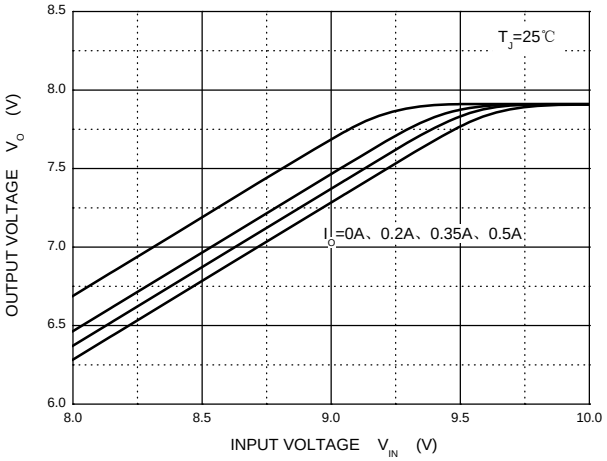
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

RATING AND CHARACTERISTIC CURVES (78M08)

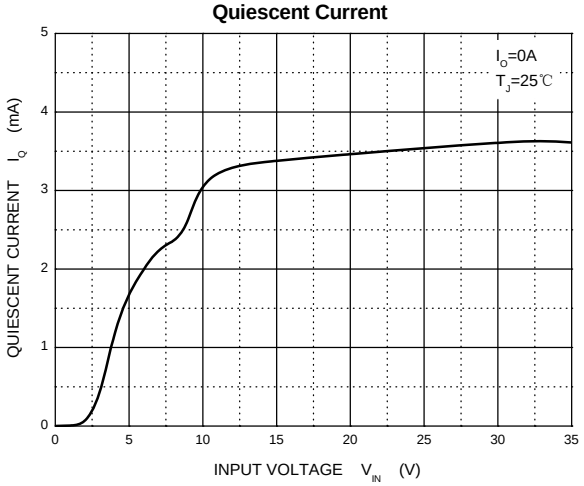
Output Characteristics



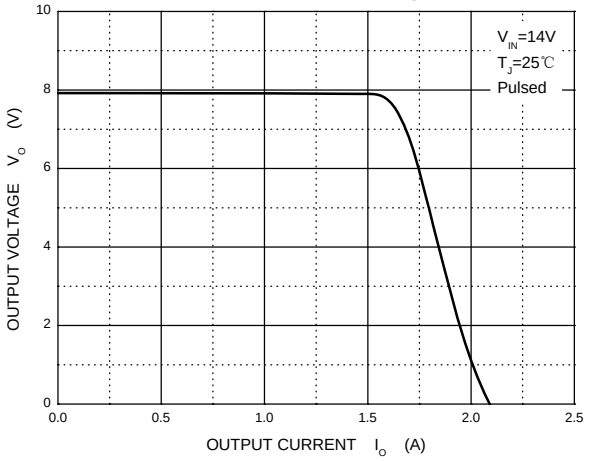
Dropout Characteristics



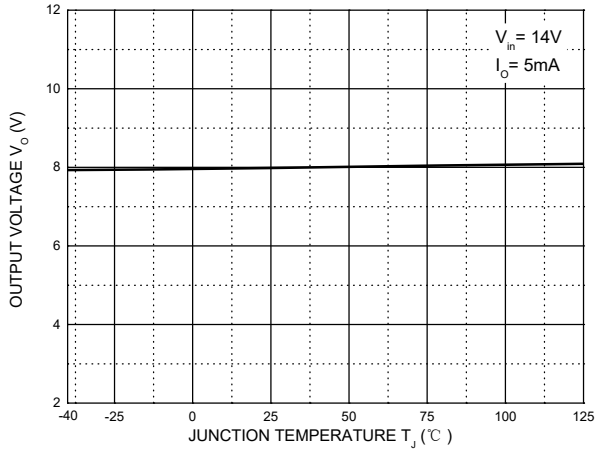
Quiescent Current



Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve