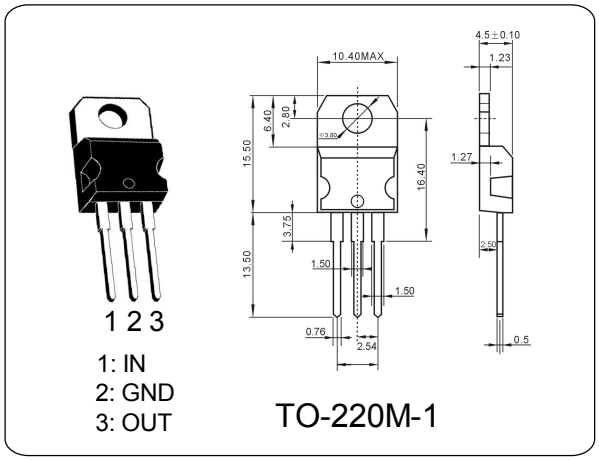
3-Terminal 1A Positive Voltage Regulator CJ7808

GENERAL DESCRIPTION

The CJ7808 series of three terminal positive regulators are available in the TO-220M-1 package and with several fixed output voltages, making them useful in a wide range of applications. Each type employs internal current limiting, thermal shut down and safe operating area protection, making it essentially indestructible. If adequate heat sinking is provided, they can deliver over 1.0A output current. Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltages and currents.

ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

Parameter	Symbol	Typ	Unit
Input Voltage	V_I	14	V
Output Voltage	V_O	8.0	V
Peak Current	I_{PK}	1.7	A
Operating Temperature Range	T_{OPR}	0~125	°C
Storage Temperature Rang	T_{STG}	-65~150	°C



ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

(Refer to test circuit, Io = 500mA, Vi = 14V, Ci= 0.33uF, Co=0.1uF unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_O	Tj = 25℃ V_I = 11V ~ 23V I_O = 5.0mA~1.0A, P_D<10W	7.6	8.0	8.4	V
Line Regulation	$\triangle V_o$	Tj = 25℃, Vi=11V ~ 25V	—	—	160	mV
		Tj = 25℃, V_I = 12V ~ 17V	—	—	80	
Load Regulation	$\triangle V_o$	Tj = 25℃, I_O = 5.0mA ~1.0A	—	—	160	mV
		Tj = 25℃ I_O = 250mA ~ 750mA	—	—	80	
Quiescent Current	I_Q	T_J =+25 °C	—	—	8.0	mA
Quiescent Current Change	$\triangle IQ$	Io = 5.0mA ~ 1.0A			0.5	mA
		Tj = 25℃, Vi=11V ~ 25V			1.3	mA
Output voltage drift	$\triangle Vo/\triangle T$	Io = 5.0mA		-0.8		mV/℃
Ripple Rejection	RR	f = 120Hz, V_O = 12V to 21V	56	73	—	dB
Dropout Voltage	V_{Drop}	I_O = 1A, T_J =+25 °C	—	2	—	V
Output Resistance	R_O	f = 1KHz	—	0.017	—	Ω
Short Circuit Current	I_{SC}	V_I = 35V, T_A =+25 °C	—	230	—	mA
Peak Current	I_{PK}	T_J =+25 °C	—	—	1.7	A