

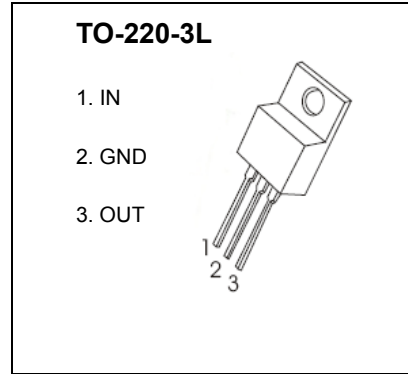


TO-220-3L Plastic-Encapsulate Voltage Regulators

7808 Three-terminal positive voltage regulator

FEATURES

- Maximum Output current I_{OM} : 1.5 A
- Output voltage V_o : 8 V
- Continuous total dissipation
 - P_D : 1.5 W ($T_a=25^\circ\text{C}$)
 - 15W ($T_c=25^\circ\text{C}$)



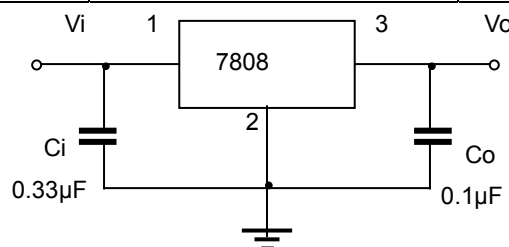
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	$^\circ\text{C/W}$
Thermal Resistance from Junction to Case	$R_{\theta JC}$	8.3	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	0~+150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=14V, I_o=500mA, C_i=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output Voltage	V_o	25°C	7.7	8	8.3	V	
		$10.5V \leq V_i \leq 23V, I_o=5mA-1A, P \leq 15W$	0-125 $^\circ\text{C}$	7.6	8	8.4	V
Load Regulation	ΔV_o	$I_o=5mA-1.5A$	25°C		12	160	mV
		$I_o=250mA-750mA$	25°C		4	80	mV
Line Regulation	ΔV_o	$10.5V \leq V_i \leq 25V$	25°C		6	160	mV
		$11V \leq V_i \leq 17V$	25°C		2	80	mV
Quiescent Current	I_q	25°C		4.3	8	mA	
Quiescent Current Change	ΔI_q	$10.5V \leq V_i \leq 25V$	0-125 $^\circ\text{C}$			1	mA
		$5mA \leq I_o \leq 1A$	0-125 $^\circ\text{C}$			0.5	mA
Output Voltage Drift	$\Delta V_o / \Delta T$	$I_o=5mA$	0-125 $^\circ\text{C}$		-0.8	mV/ $^\circ\text{C}$	
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$	25°C		52	μV	
Ripple Rejection	RR	$11.5V \leq V_i \leq 21.5V, f=120Hz$	0-125 $^\circ\text{C}$	55	72	dB	
Dropout Voltage	V_d	$I_o=1A$	25°C		2	V	
Output Resistance	R_o	$f=1KHz$	25°C		10	m Ω	
Short Circuit Current	I_{sc}		25°C		450	mA	
Peak Current	I_{pk}		25°C		2.2	A	

TYPICAL APPLICATION



Typical Characteristics

7808

