

TO-220-3L Plastic-Encapsulate Voltage Regulators

L7808

Three-terminal positive voltage regulator

FEATURES

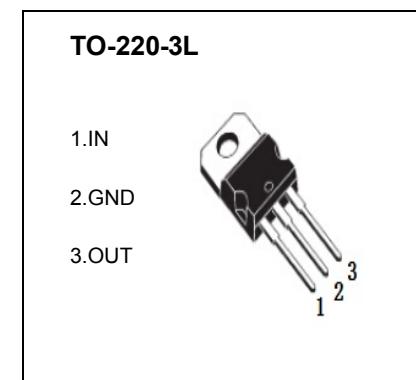
Maximum Output current I_{OM} : 1.5 A

Output voltage V_o : 5V

Continuous total dissipation

P_D : 1.5 W ($T_a = 25^\circ C$)

15 W($T_c = 25^\circ C$)



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	°C/W
Thermal Resistance from Junction to Case	$R_{\theta JC}$	8.3	°C/W
Operating Junction Temperature Range	T_{OPR}	0~+150	°C
Storage Temperature Range	T_{STG}	-55~+150	°C

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=10V, I_o=500mA, C_i=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V_o	25°C	4.8	5.0	5.2	V
		7V≤ V_i ≤20V, $I_o=5mA-1A$, $P\leq 15W$	0-125°C	4.75	5.00	5.25
Load Regulation	ΔV_o	$I_o=5mA-1.5A$	25°C	9	100	mV
		$I_o=250mA-750mA$	25°C	4	50	mV
Line regulation	ΔV_o	7V≤ V_i ≤25V	25°C	4	100	mV
		8V≤ V_i ≤12V	25°C	1.6	50	mV
Quiescent Current	I_q	25°C		5	8	mA
Quiescent Current Change	ΔI_q	7V≤ V_i ≤25V	0-125°C	0.3	1.3	mA
		5mA≤ I_o ≤1A	0-125°C	0.03	0.5	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25°C	42		uV
Output voltage drift	$\Delta V_o/\Delta T$	$I_o=5mA$	0-125°C	-1.1		mV/°C
Ripple Rejection	RR	8V≤ V_i ≤18V, f=120Hz	0-125°C	62	73	dB
Dropout Voltage	V_d	$I_o=1A$	25°C	2		V
Output resistance	R_o	f=1KHz	25°C	10		mΩ
Short Circuit Current	I_{sc}		25°C	230		mA
Peak Current	I_{pk}		25°C	2		A

TYPICAL APPLICATION

