

## POSITIVE VOLTAGE REGULATOR

LM78L08

TO-92  
Plastic Package



pin 1.Output  
2.Ground  
3.Input

Fixed Voltage Monolithic Integrated Circuit Voltage Regulators is Desigbed for a Wide Range of Applications

### ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Input Voltage	$V_{IN}$	30	V
Power Dissipation	$P_D$	625	mW
Operating free air, Case, or Virtual Junction Temperature Range	$T_j$	0 to 150	°C
Storage Temperature Range	$T_{stg}$	- 65 to +150	°C
Lead Temperature 1.6mm (1/16inch) from Case for 10 seconds	$T_L$	260	°C

### Recommended Operating Conditions

DESCRIPTION	SYMBOL	MIN	TYP	MAX	UNIT
Input Voltage	$V_I$	10.5		23	V
Output Current	$I_O$			100	mA
Operating Junction Temperature	$T_j$	0		125	°C

### ELECTRICAL CHARACTERISTICS

(At Specified Virtual Junction Temperature,  $V_I=14V$ ,  $I_O=40mA$ , (unless specified otherwise)

DESCRIPTION	SYMBOL	*TEST CONDITION	MIN	TYP	MAX	UNIT
Output Voltage	$V_O$	25°C	7.7		8.3	V
		$I_O=1mA$ to 40mA, 0°C to 125°C $V_I=10.5V$ to 23V, 0°C to 125°C	7.6		8.4	V
		$I_O=1mA$ to 70mA, 0°C to 125°C	7.6		8.4	V
Line Regulation	$R_{BGIN}$	$V_I=10.5V$ to 23V, 25°C			175	mV
		$V_I=11$ to 23V, 25°C			125	mV
Ripple Rejection	$R_R$	$V_I=13V$ to 23V, $f=120Hz$ , 0°C to 125°C	37			dB
Load Regulation	$R_{BGL}$	$I_O=1mA$ to 100mA, 25°C			80	mV
		$I_O=1mA$ to 40mA, 25°C			40	mV
Output Noise Voltage	$V_{NO}$	$f=10Hz$ to 100KHz, 25°C		54		μV
Dropout Voltage	$V_{DIF (min)}$	25°C		1.7		V
Quiescent Current	$I_Q$	25°C			6.0	mA
		125°C			5.5	mA
Quiescent Current Change	$\Delta I_{QIN}$	$V_I=11V$ to 23V, 0°C to 125°C			1.5	mA
	$\Delta I_{QL}$	$I_O=1mA$ to 40mA, 0°C to 125°C			0.1	mA

\*Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 0.33μF capacitor across the input and 0.1μF capccitor across the output

\*\*This specification applies only for dc power dissipation permitted by absolute maximum ratings.

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2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

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