



## SOT-89 Encapsulate Three Terminal Voltage Regulator

### CJ78L08 Three-terminal positive voltage regulator

#### FEATURES

Maximum Output current

$$I_{OM}: 0.1 \text{ A}$$

Output voltage

$$V_O: 8 \text{ V}$$

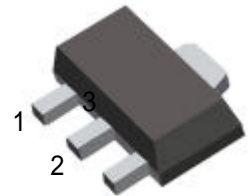
**ABSOLUTE MAXIMUM RATINGS ( Operating temperature range applies unless otherwise specified )**

SOT - 89

1. OUT

2. GND

3. IN



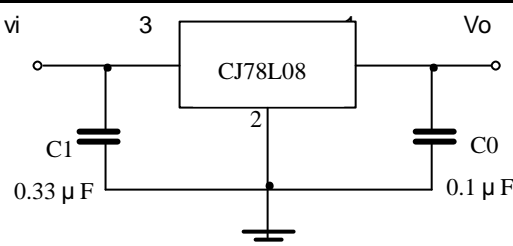
Parameter	Symbol	Value	Units
Input Voltage	$V_I$	30	V
Operating Junction Temperature Range	$T_{OPR}$	0—+125	
Storage Temperature Range	$T_{STG}$	-55—+150	

#### ELECTRICAL CHARACTERISTICS

( $V_I=14\text{V}, I_O=40\text{mA}, 0 < T_j < 125^\circ\text{C}, C_1=0.33 \mu\text{F}, C_O=0.1 \mu\text{F}$ , unless otherwise specified )

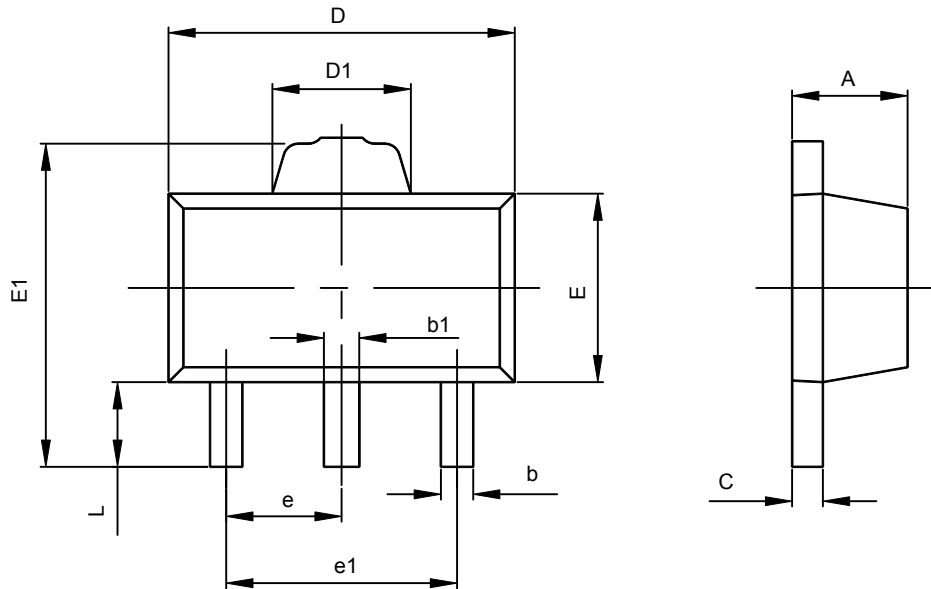
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	$V_O$	$T_j=25^\circ\text{C}$	7.7	8.0	8.3	V
		10.5V $V_I$ 23V, $I_O=1\text{mA}-40\text{mA}$	7.6	8.0	8.4	V
		10.5V $V_I$ $V_{MAX}$ , $I_O=1\text{mA}-70\text{mA}$	7.6	8.0	8.4	V (note)
Load Regulation	$V_O$	$T_j=25^\circ\text{C}$ , $I_O=1\text{mA}-100\text{mA}$		18	80	mV
		$T_j=25^\circ\text{C}$ , $I_O=1\text{mA}-70\text{mA}$		10	40	mV
Line regulation	$V_O$	10.5V $V_I$ 23V, $T_j=25^\circ\text{C}$		42	175	mV
		11V $V_I$ 23V, $T_j=25^\circ\text{C}$		36	125	mV
Quiescent Current	$I_q$	25		4	6	mA
Quiescent Current Change	$I_q$	11V $V_I$ 23V			1.5	mA
	$I_q$	1mA $I_O$ 40mA			0.1	mA
Output Noise Voltage	$V_N$	10Hz $f$ 100KHz		54		$\mu\text{V}$
Ripple Rejection	RR	13V $V_I$ 23V, $f=120\text{Hz}, T_j=25^\circ\text{C}$	37	46		dB
Dropout Voltage	$V_d$	$T_j=25^\circ\text{C}$		1.7		V

#### TYPICAL APPLICATION



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

## SOT-89-3L PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.360	0.560	0.014	0.022
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.400	1.800	0.055	0.071
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500TYP		0.060TYP	
e1	2.900	3.100	0.114	0.122
L	0.900	1.100	0.035	0.043