

**SOT-89 Encapsulate Three Terminal Voltage Regulator****CJ78L09** Three-terminal positive voltage regulator**FEATURES**

Maximum Output current

 I_{OM} : 0.1 A

Output voltage

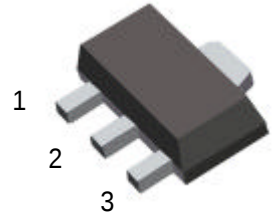
 V_O : 9 V

SOT-89

1. OUT

2. GND

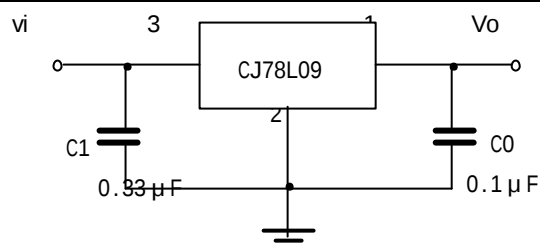
3. IN

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

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

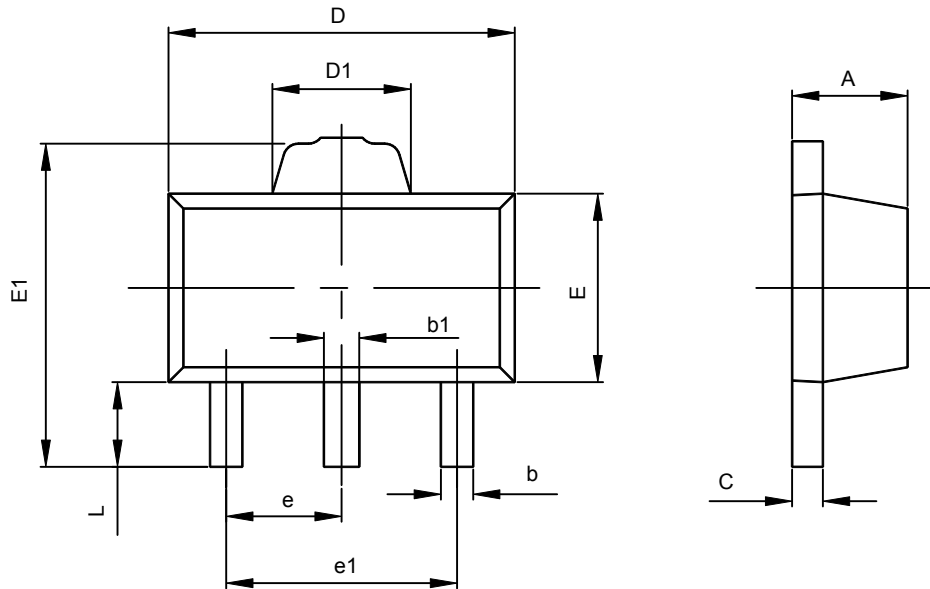
ELECTRICAL CHARACTERISTICS($V_I=15V, I_O=40mA, 0 < T_j < 125$, $C_1=0.33 \mu F, C_O=0.1 \mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_O	$T_j=25$	8.64	9.0	9.36	V
		$12V \leq V_I \leq 24V, I_O=1mA-40mA$	8.55	9.0	9.45	V
		$11.5V \leq V_I \leq V_{MAX}, I_O=1mA-70mA$	8.55	9.0	9.45	V (note)
Load Regulation	V_O	$T_j=25$, $I_O=1mA-100mA$		19	90	mV
		$T_j=25$, $I_O=1mA-40mA$		11	40	mV
Line regulation	V_O	$12V \leq V_I \leq 24V, T_j=25$		45	175	mV
		$13V \leq V_I \leq 24V, T_j=25$		40	125	mV
Quiescent Current	I_q			4.1	6.0	mA
Quiescent Current Change	I_q	$8V \leq V_I \leq 20V$			1.5	mA
	I_q	$1mA \leq I_O \leq 40mA$			0.1	mA
Output Noise Voltage	V_n	$10Hz \leq f \leq 100KHz$		58		μV
Ripple Rejection	RR	$15V \leq V_I \leq 25V, f=120Hz, T_j=25$		45		dB
Dropout Voltage	V_d	$T_j=25$		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