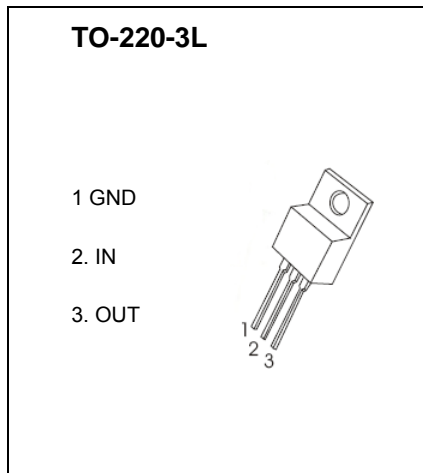


# TO-220-3L Plastic-Encapsulate Voltage Regulator

**CJ7909** Three-terminal negative voltage regulator

**FEATURES**

- Maximum Output current  $I_{OM}$ : 1.5 A
- Output voltage  $V_o$ : - 9 V
- Continuous total dissipation
  - $P_D$ : 2 W ( $T_J = 25^\circ\text{C}$ )
  - 15 W ( $T_C = 25^\circ\text{C}$ )



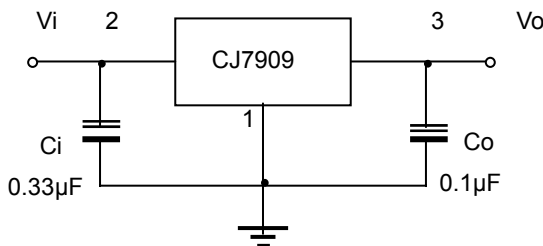
**ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)**

Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	-35	V
Thermal resistance junction-air	$R_{\theta JA}$	65	$^\circ\text{C}/\text{W}$
Thermal resistance junction-cases	$R_{\theta JC}$	5	$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_{OPR}$	0~+150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55~+150	$^\circ\text{C}$

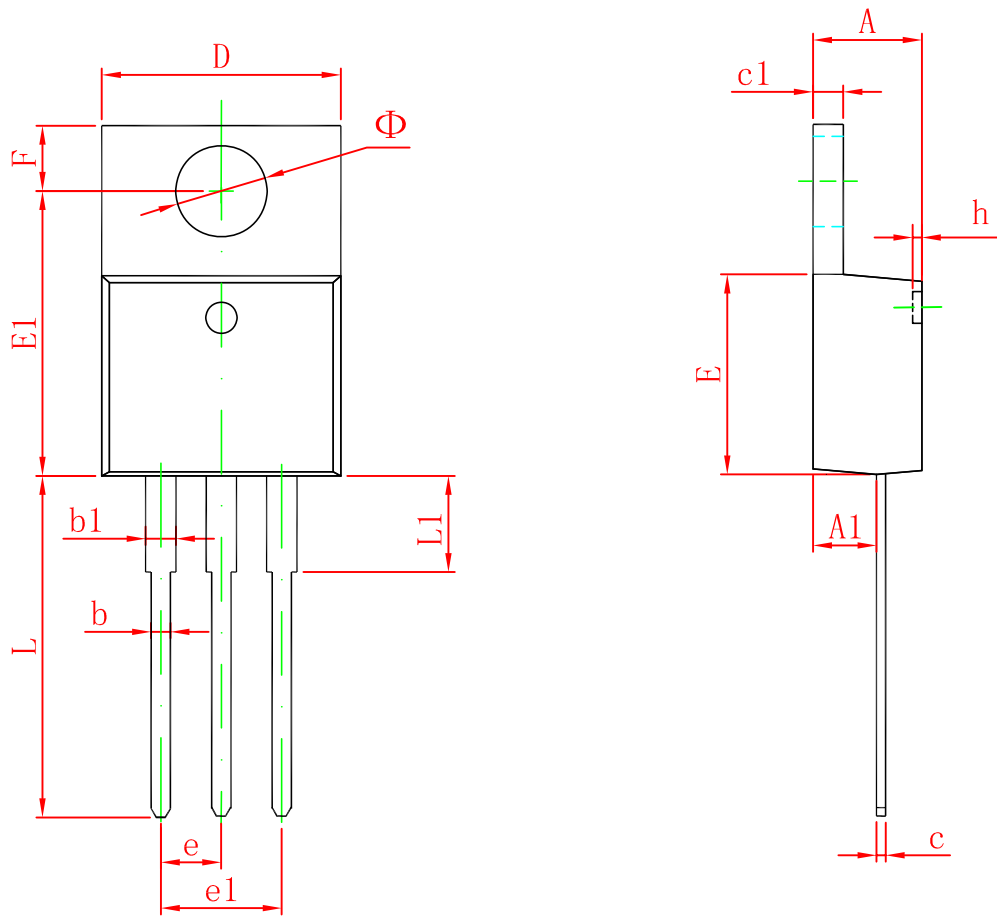
**ELECTRICAL CHARACTERISTICS ( $V_i = -15\text{V}, I_o = 500\text{mA}, 0^\circ\text{C} < T_J < 125^\circ\text{C}, C_i = 0.33\mu\text{F}, C_o = 0.1\mu\text{F}$ , unless otherwise specified )**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	$V_o$	$T_J = 25^\circ\text{C}$	-8.64	-9	-9.36	V
		$-11.5\text{V} \leq V_i \leq -24\text{V}, I_o = 5\text{mA} - 1\text{A}, P \leq 15\text{W}$	-8.55	-9	-9.45	V
Load Regulation	$\Delta V_o$	$T_J = 25^\circ\text{C}, I_o = 5\text{mA} - 1.5\text{A}$			180	mV
		$T_J = 25^\circ\text{C}, I_o = 250\text{mA} - 750\text{mA}$			80	mV
Line regulation	$\Delta V_o$	$-11.5\text{V} \leq V_i \leq -26\text{V}, T_J = 25^\circ\text{C}$			140	mV
		$-13\text{V} \leq V_i \leq -19\text{V}, T_J = 25^\circ\text{C}$			70	mV
Quiescent Current	$I_q$	$T_J = 25^\circ\text{C}$		1.6	2.6	mA
Quiescent Current Change	$\Delta I_q$	$-11.5\text{V} \leq V_i \leq -26\text{V}$			1	mA
	$\Delta I_q$	$5\text{mA} \leq I_o \leq 1\text{A}$			0.5	mA
Ripple Rejection	RR	$-12.5\text{V} \leq V_i \leq -22.5\text{V}, f = 120\text{Hz}$	54	60		dB
Dropout Voltage	$V_d$	$T_J = 25^\circ\text{C}, I_o = 1\text{A}$		1.1		V
Peak output Current	$I_{pk}$	$T_J = 25^\circ\text{C}$		2.1		A

**TYPICAL APPLICATION**



# TO-220-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
E1	12.060	12.460	0.475	0.491
e	2.540 TYP		0.100 TYP	
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
h	0.000	0.300	0.000	0.012
L	13.400	13.800	0.528	0.543
L1	3.560	3.960	0.140	0.156
$\Phi$	3.735	3.935	0.147	0.155