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L7909 Three-terminal positive voltage regulator

TO-220 Encapsulate Three Terminal Voltage Regulator

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客户确认：

公司签章：

部门	工程部	品保部	采购部
签名			
日期			

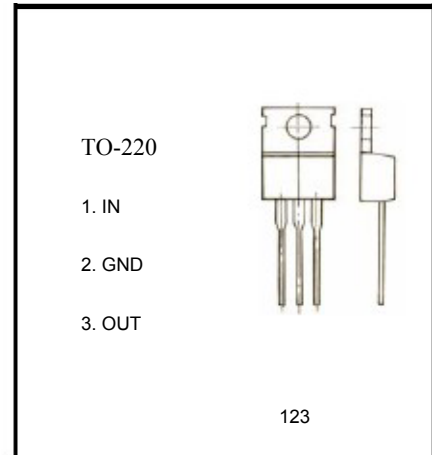


**TO-220 Plastic-Encapsulate Voltage Regulator**

7909 Three-terminal positive voltage regulator

**FEATURES**

- Maximum Output current  $I_{OM}$ : 1.5 A
- Output voltage  $V_o$ : -9 V
- Continuous total dissipation  
 $P_D$ : 2 W ( $T_J = 25$  )



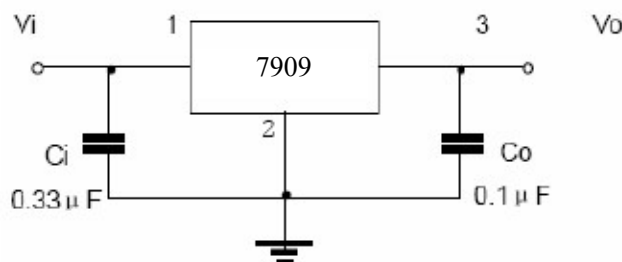
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

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

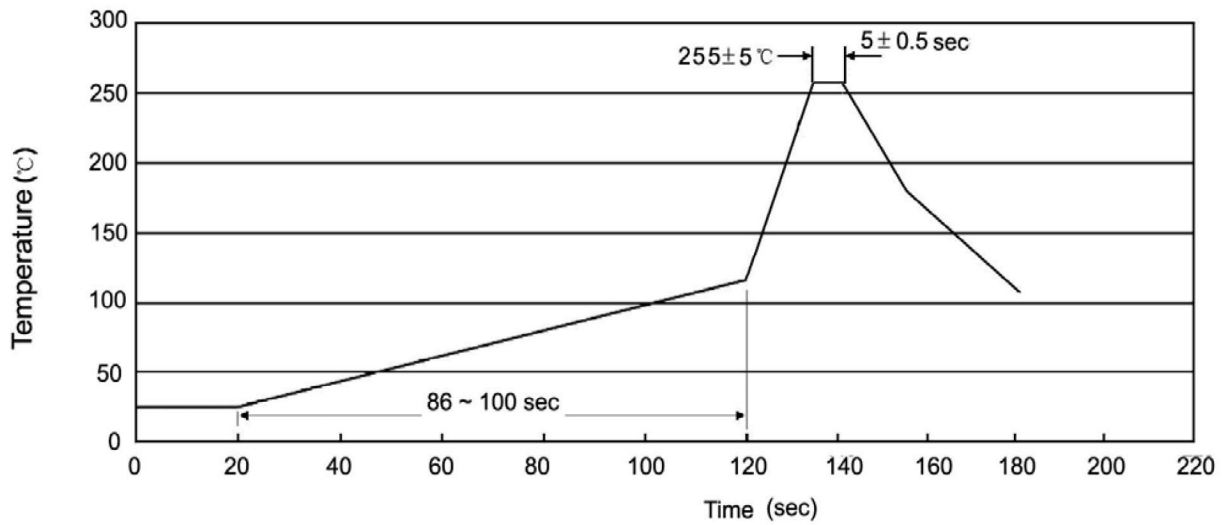
ELECTRICAL CHARACTERISTICS ( $V_i=16V, I_o=500mA, 0 < T_J < 125$  ,  $C_i=0.33\mu F, C_o=0.1\mu F$ , unless otherwise specified )

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	$V_o$	$T_J=25$	5.65	5.9	6.35	V
		$11.5V \leq V_i \leq 24V, I_o = 5mA-1A, P \leq 15W$	5.55	5.9	6.45	V
Load Regulation	$\Delta V_o$	$T_J=25, I_o=5mA-1.5A$		12	180	mV
		$T_J=25, I_o=250mA-750mA$		4	90	mV
Line regulation	$\Delta V_o$	$11.5V \leq V_i \leq 27V, T_J=25$		7	180	mV
		$13V \leq V_i \leq 19V, T_J=25$		2	90	mV
Quiescent Current	$I_q$	$T_J=25$		4.3	8	mA
Quiescent Current Change	$\Delta I_q$	$11.5V \leq V_i \leq 27V$			1	mA
		$5mA \leq I_o \leq 1A$			0.5	mA
Output voltage drift	$V_o / T$	$I_o=5mA$		-1		mV/
Output Noise Voltage	$V_N$	$10Hz \leq f \leq 100KHz$		60		uV
Ripple Rejection	RR	$12V \leq V_i \leq 22V, f=120Hz, T_J=25$	55	70		dB
Dropout Voltage	$V_d$	$T_J=25, I_o=1A$		2		V
Output resistance	$R_o$	$f=1KHz$		18		mΩ
Short Circuit Current	$I_{sc}$	$T_J=25$		400		mA
Peak Current	$I_{pk}$	$T_J=25$		2.2		A

TYPICAL APPLICATION



波峰焊温度曲线图(无铅) / Temperature Profile for Dip Soldering(Pb-Free)



说明：

- 1、预热温度 25 ~ 150°C，时间 60 ~ 90sec;
- 2、峰值温度 255±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:25~150°C, Time:60~90sec.
- 2.Peak Temp.:255±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

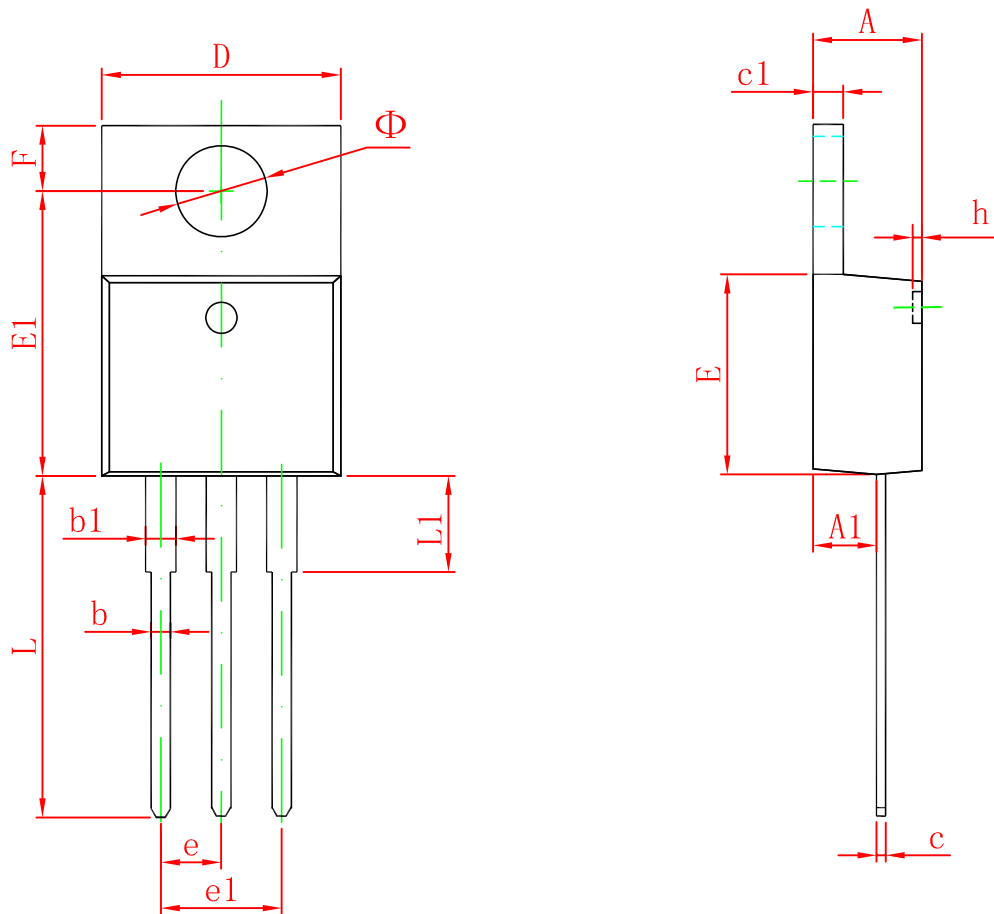
温度：270±5°C

时间：10±1 sec.

Temp:270±5°C

Time:10±1 sec

# 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