



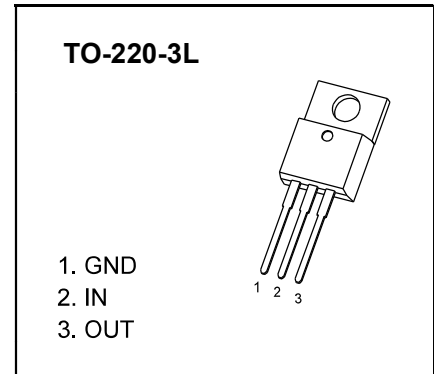
DONGGUAN NANJING ELECTRONICS LTD.,

TO-220-3L Plastic-Encapsulate Voltage Regulator

7908 Three-terminal negative voltage regulator

FEATURES

- Maximum output current
 I_{OM} : 1.5 A
- Output voltage
 V_O : -8V
- Continuous total dissipation
 P_D : 1.5 W ($T_a = 25^\circ\text{C}$)



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

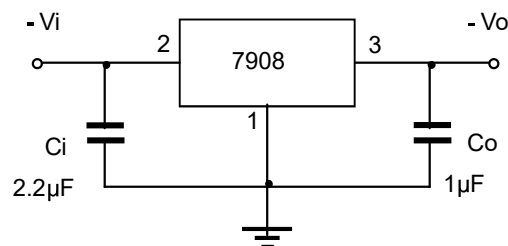
Parameter	Symbol	Value	Unit
Input Voltage	V_i	-35	V
Thermal Resistance from Junction to Air	$R_{\theta JA}$	83.3	$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_{OPR}	-40~+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i = -14\text{V}, I_o = 500\text{mA}, C_i = 2.2\mu\text{F}, C_o = 1\mu\text{F}$, unless otherwise specified)

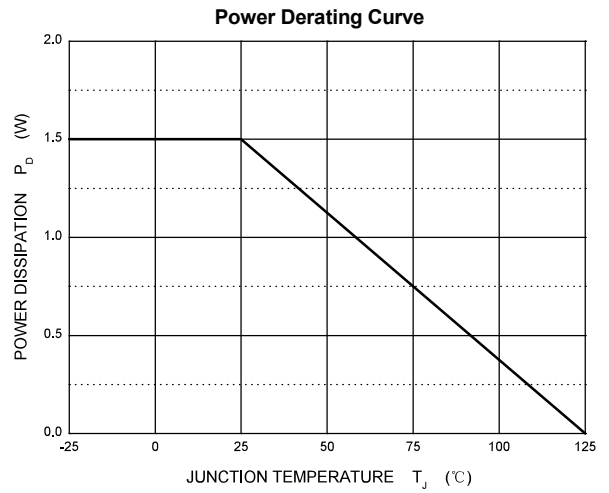
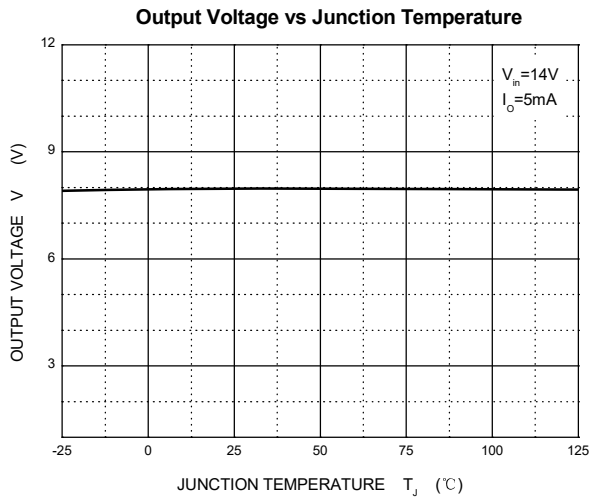
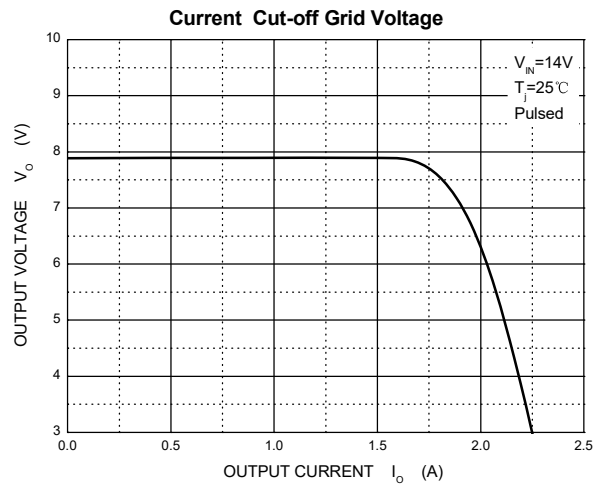
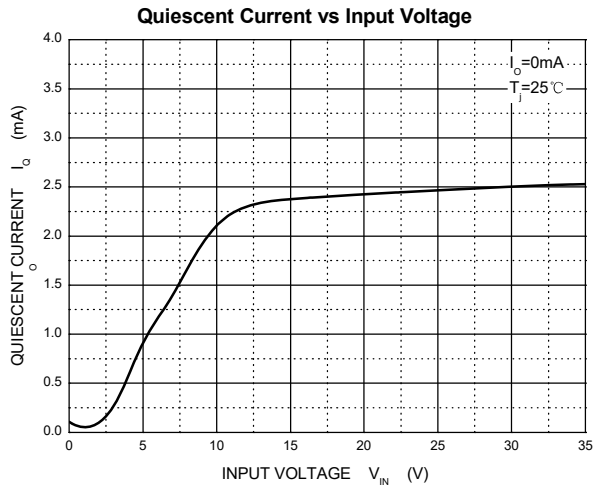
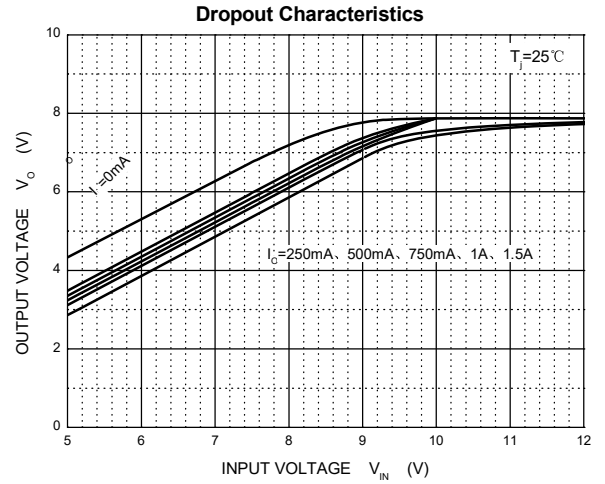
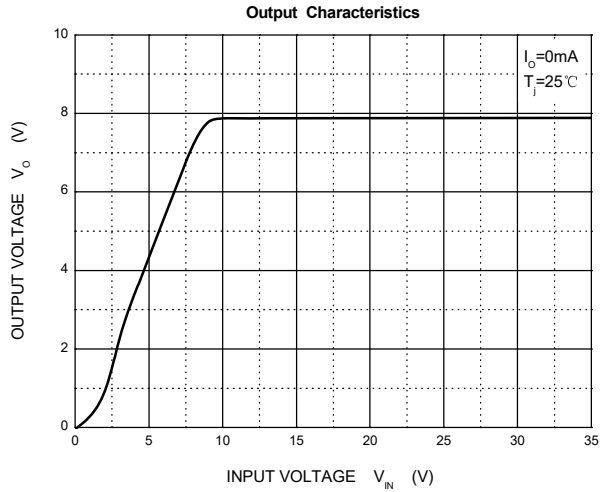
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output Voltage	V_o	25°C	-7.68	-8	-8.32	V	
		$-10.5\text{V} \leq V_i \leq -23\text{V}, I_o = 5\text{mA} - 1\text{A}$	0-125 $^\circ\text{C}$	-7.6	-8	-8.4	V
Load Regulation	ΔV_o	$I_o = 5\text{mA} - 1.5\text{A}$	25°C		15	160	mV
		$I_o = 250\text{mA} - 750\text{mA}$	25°C		5	80	mV
Line Regulation	ΔV_o	$-10.5\text{V} \leq V_i \leq -25\text{V}$	25°C		12.5	160	mV
		$-11\text{V} \leq V_i \leq -17\text{V}$	25°C		4	80	mV
Quiescent Current	I_q	25°C		1.5	2	mA	
Quiescent Current Change	ΔI_q	$-10.5\text{V} \leq V_i \leq -25\text{V}$	0-125 $^\circ\text{C}$		1	mA	
	ΔI_q	$5\text{mA} \leq I_o \leq 1\text{A}$	0-125 $^\circ\text{C}$		0.5	mA	
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$	25°C		200	$\mu\text{V}/V_o$	
Output Voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$	0-125 $^\circ\text{C}$		-0.6	$\text{mV}/^\circ\text{C}$	
Ripple Rejection	RR	$-11.5\text{V} \leq V_i \leq -21.5\text{V}, f = 120\text{Hz}$	0-125 $^\circ\text{C}$	54	60	dB	
Dropout Voltage	V_d	$I_o = 1\text{A}$	25°C		1.1	V	
Peak Current	I_{pk}		25°C		2.1	A	

* Pulse test.

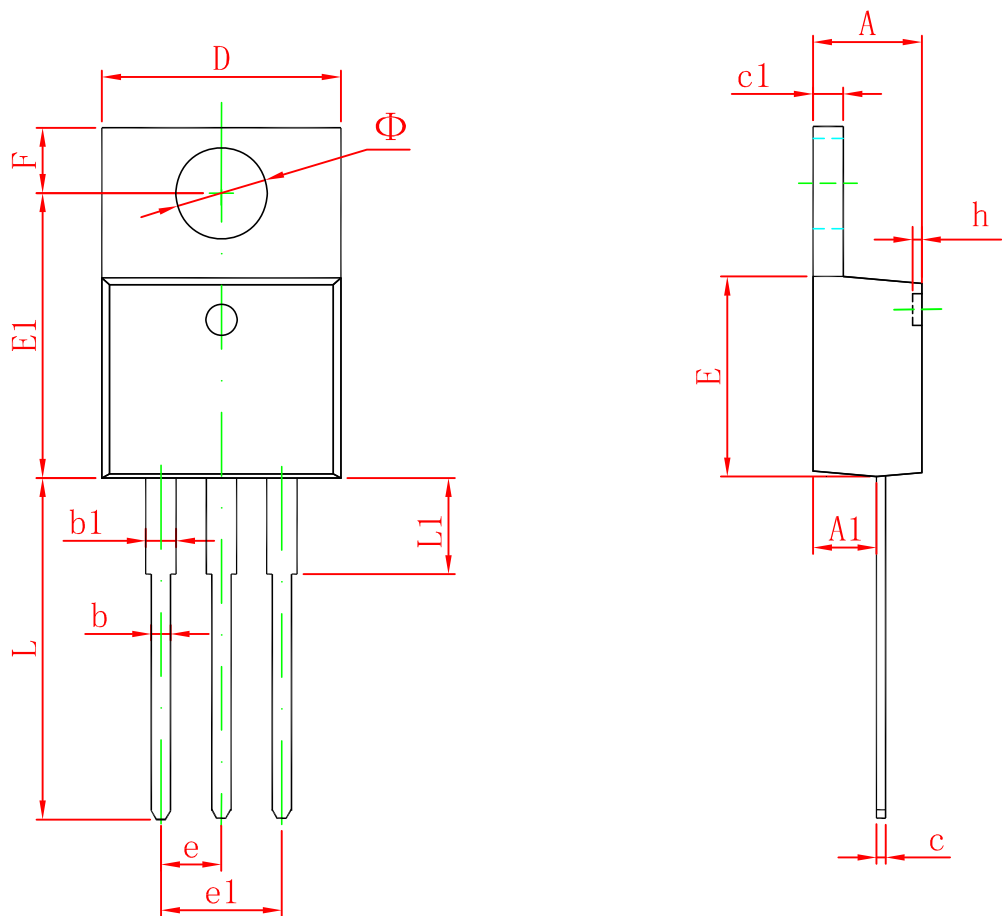
TYPICAL APPLICATION



Typical Characteristics



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
Φ	3.735	3.935	0.147	0.155