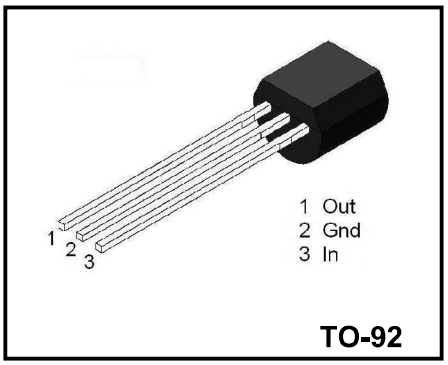
0.1A 8V positive voltage regulator

Features

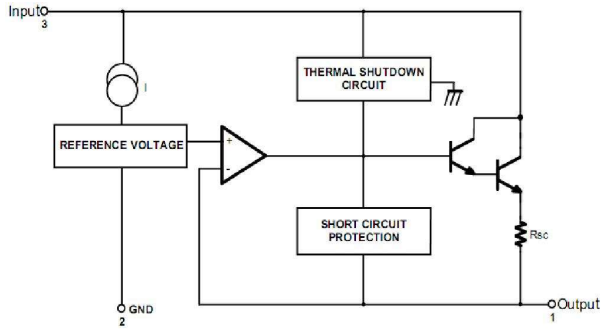
- Maximum Output Current of 100mA
- Output Voltage of 8V
- Thermal Overload Protection
- Short Circuit Current Limiting
- Output Voltage Offered in ±5% Tolerance



Description

The 78L08 of fixed voltage monolithic integrated circuit voltage regulators are suitable for application that required supply current up to100mA.

Internal Block Digram



Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Input Voltage	V_{IN}	30	V
Operating Temperature Range	T_{OPR}	0 ~ + 125	℃
Storage Temperature Range	T_{STG}	-55 ~ + 150	℃

Electrical Characteristics

(V_I = 14V, I_O = 40mA, 0℃ ≤ T_J ≤ 125℃, C_I = 0.33μF, C_O = 0.1μF, unless otherwise specified)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Output Voltage	V_{OUT}	T_j = 25℃	7.68	8.0	8.32	V
		V_{IN} = 10.5V ~ 23V , I_{OUT}= 1mA ~ 40mA	7.60	8.0	8.40	
		V_I = 10.5V ~ V_{Max} , I_{OUT}= 1mA ~ 70mA	7.60	8.0	8.40	
Line Regulation	ΔV_{OUT}	V_{IN} = 10.5V ~ 23V , T_j = 25℃			160	mV
		V_{IN} = 11V ~ 23V , T_j = 25℃			100	
Load Regulation(Note)	ΔV_{OUT}	I_{OUT}= 1mA ~ 100mA , T_j = 25℃			80	mV
		I_{OUT}= 1mA ~ 40mA , T_j = 25℃			40	
Quiescent Current	I_Q	V_{IN} = 14V , I_{OUT} = 0, T_j = 25℃			6	mA
Quiescent Current Change	ΔI_Q	I_{OUT}=1mA ~ 40mA			0.1	mA
		V_{IN} = 11V ~ 23V			1.5	
Output Voltage Drift	$\Delta V / \Delta T$	I_{OUT} = 5mA		-0.75		mV/℃
Output Noise Voltage	V_N	f =10H_Z~100KH_Z		50		μV
Ripple Rejection	RR	f = 120Hz, V_I = 11V~ 23V, T_j = 25℃		52		dB
Dropout Voltage	V_D	T_j = 25℃		1.7		V

Notes:The maximum steady state usable output current and input voltage are very dependent on the heat Sinking and/or lead lengthof the package.
The data above represent pulse test conditions with junction temperature as indicated at the initiation of tests.

Typical Characteristics

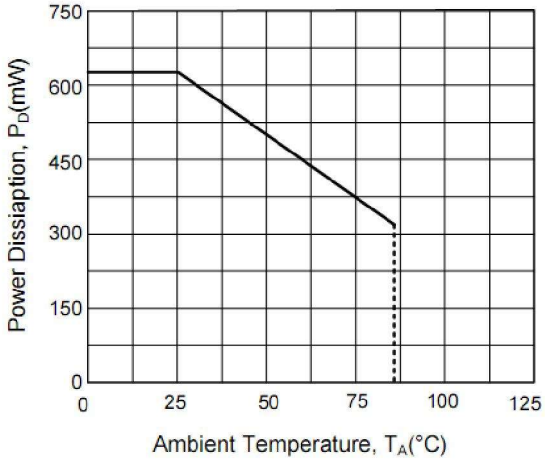


Figure 1 : Ambient temperature vs. Power dissipation

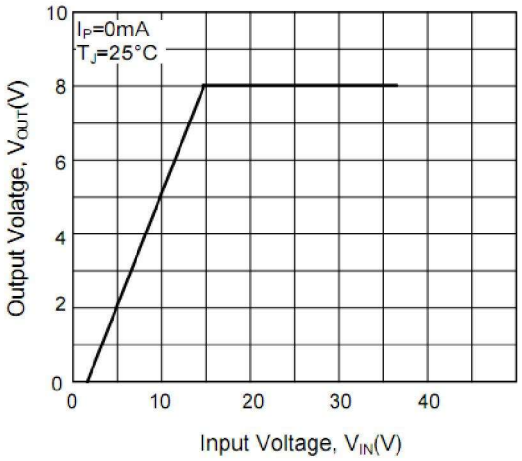


Figure 2 : Output Characteristics

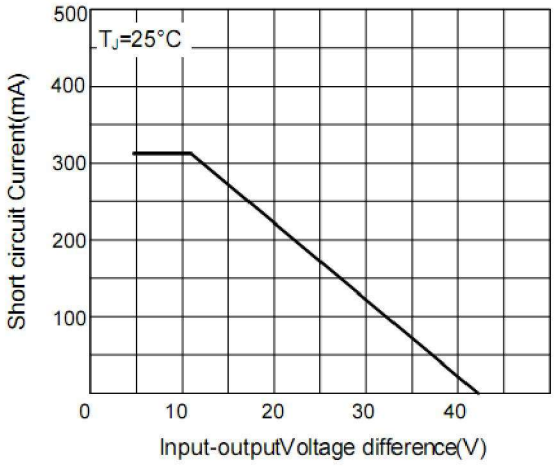


Figure 3 : Short Circuit output current

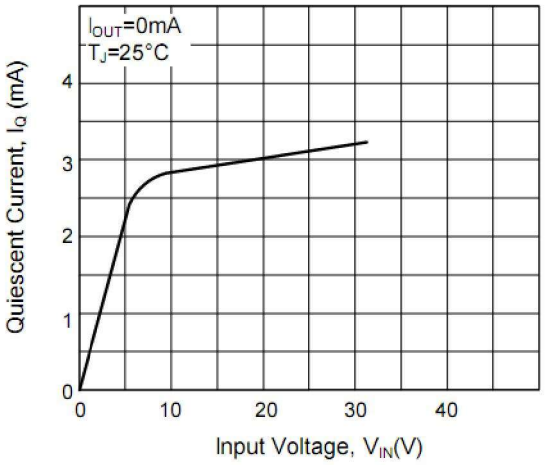


Figure 4 : Quiescent Current vs Input Voltage

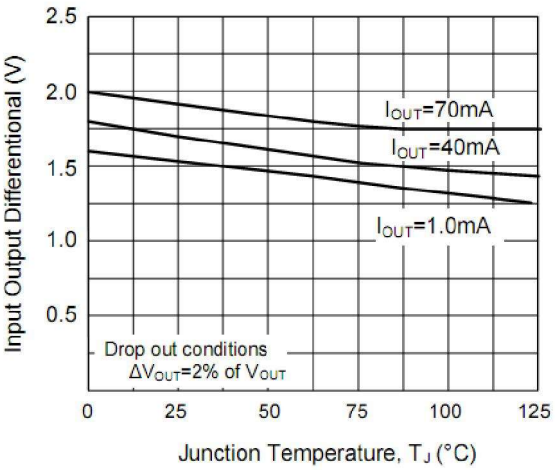


Figure5 : Dropout Voltage

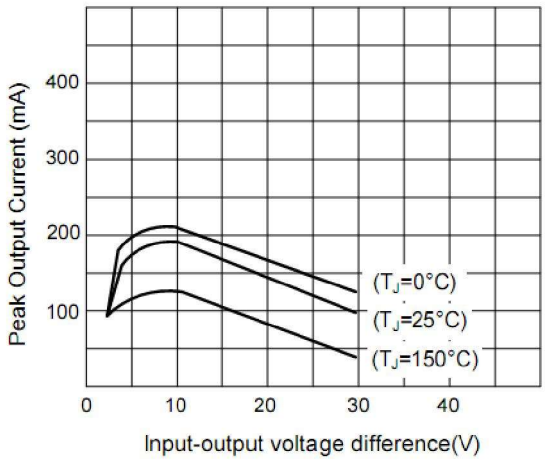
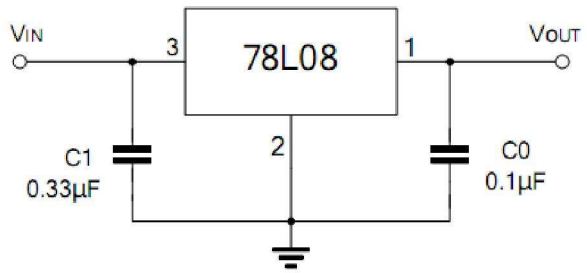


Figure 6 : Peak Output Current vs. Dropout Voltage Difference

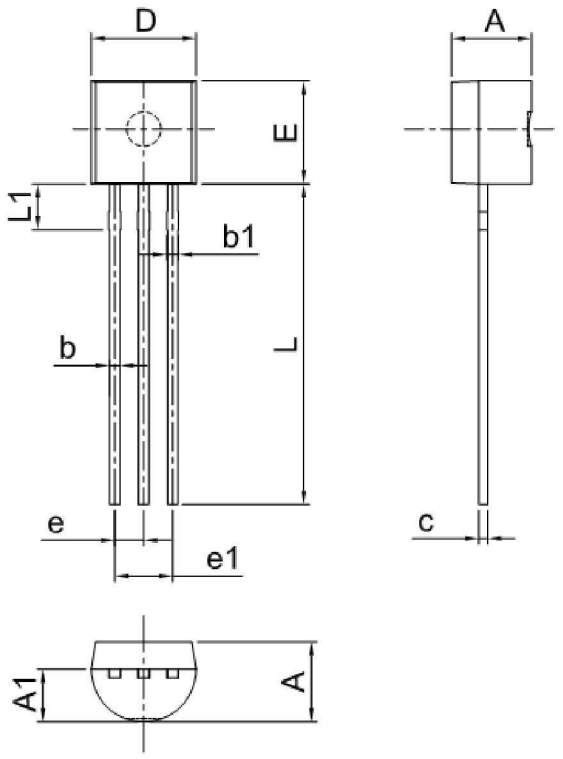
Application Circuit



Note:
Bypass capacitors are recommended for optimum stas close as possible to the regulators.

Package Dimensions

TO-92



Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.70	0.130	0.146
A1	2.30	2.70	0.091	0.106
b	0.40	0.50	0.016	0.020
b1	0.50	0.70	0.020	0.028
c	0.35	0.45	0.014	0.018
D	4.45	4.70	0.175	0.185
E	4.40	4.65	0.173	0.183
e	1.17	1.37	0.046	0.054
e1	2.34	2.64	0.092	0.104
L	13.50	14.50	0.531	0.571
L1	1.80	2.20	0.071	0.087

Product Specification Classification

Part Number	Package	Marking	Pack
78L08	TO-92	78L08 XXXXX	1000PCS/Bag 2000pcs/box