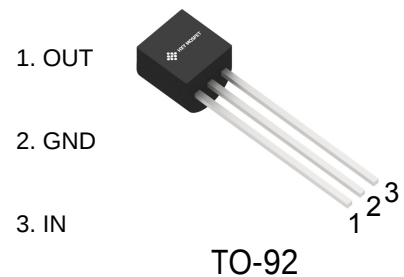




Features

- Available Output Voltage: 8.0V
- Maximum Input Voltage:
30V for $V_{OUT} < 10V$
- Maximum Output Current:
Exceed 100mA at $T_J = 25^{\circ}C$
- Output Tolerances:
 $\pm 3\%$ at $T_J = 25^{\circ}C$
 $\pm 5\%$ over the Operating T_J
- No External Components

Pin Configuration



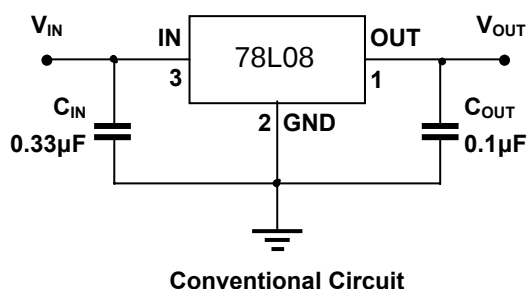
Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
78L08	TO-92	78L08	1000

Applications

- TV Board
- Air Conditioner
- Vehicle Mounted Radar
- Charging Device

Typical Application Circuit



Conventional Circuit

Absolute Maximum Ratings

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Maximum input voltage	V_{IN}	30	V
Maximum junction temperature	$T_{J \text{ Max}}$	150	$^{\circ}C$
Storage temperature	T_{stg}	- 65 ~ 150	$^{\circ}C$
Soldering temperature & time	T_{solder}	260 $^{\circ}C$, 10s	-



Electrical Characteristics

78L08 ($V_{IN} = 14V$, $I_{OUT} = 40mA$, $C_{IN} = 0.33\mu F$, $C_{OUT} = 0.1\mu F$, $T_J = 25^\circ C$, unless otherwise specified)

Characteristics	Symbol	Test Conditions ⁽⁶⁾		Min.	Typ.	Max.	Unit
Input voltage	V_{IN}	-		-	-	30	V
Output voltage	V_{OUT}	$T_J = 25^\circ C$	$\pm 3\%$ grade ⁽⁷⁾	7.76	8.00	8.24	V
			$\pm 2\%$ grade ⁽⁷⁾	7.84		8.15	
		$V_{IN} = 10.5$ to $23V$, $I_{OUT} = 1$ to $40mA$		7.60		8.40	
		$I_{OUT} = 1$ to $70mA$		7.76		8.40	
Output current	I_{OUT}	-		100	-	-	mA
Quiescent current	I_Q	$I_{OUT} = 0mA$		-	4.0	6.0	mA
Quiescent current change	ΔI_Q	$V_{IN} = 11$ to $23V$		-	-	1.5	mA
		$I_{OUT} = 1$ to $40mA$		-	-	0.1	mA
Dropout voltage	$V_{DO}^{(8)}$	-		-	1.7	-	V
Line regulation	ΔV_{LINE}	$V_{IN} = 10.5$ to $23V$		-	42	175	mV
		$V_{IN} = 11$ to $23V$		-	36	125	
Load regulation	ΔV_{LOAD}	$I_{OUT} = 1$ to $100mA$		-	18	80	mV
		$I_{OUT} = 1$ to $40mA$		-	10	40	
Output noise voltage	V_N	$f = 10$ to $100kHz$		-	54	-	$\mu V/V_{OUT}$
Ripple rejection	RR	$V_{IN} = 13$ to $23V$, $f = 120Hz$		37	46	-	dB

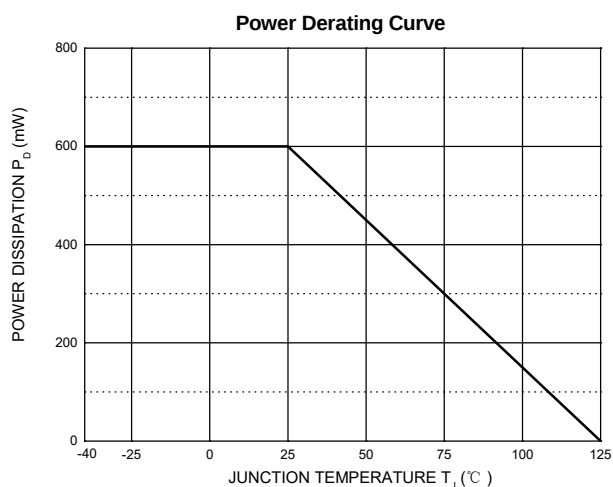
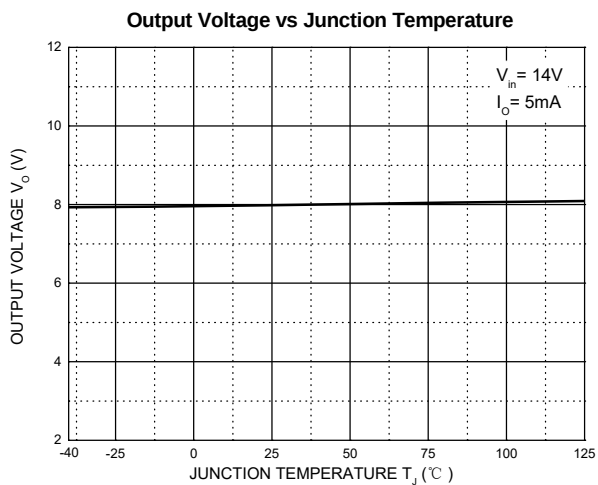
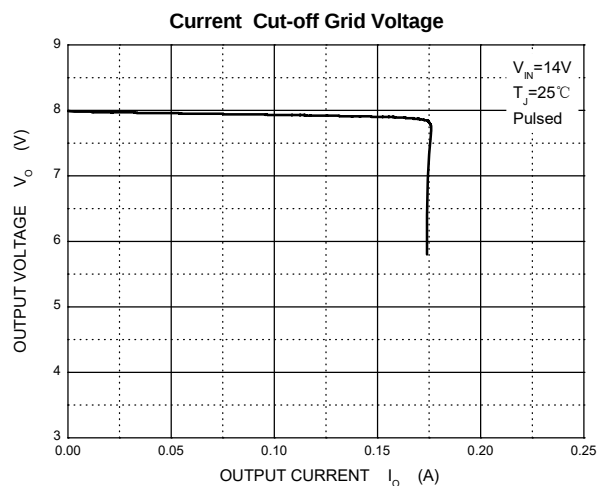
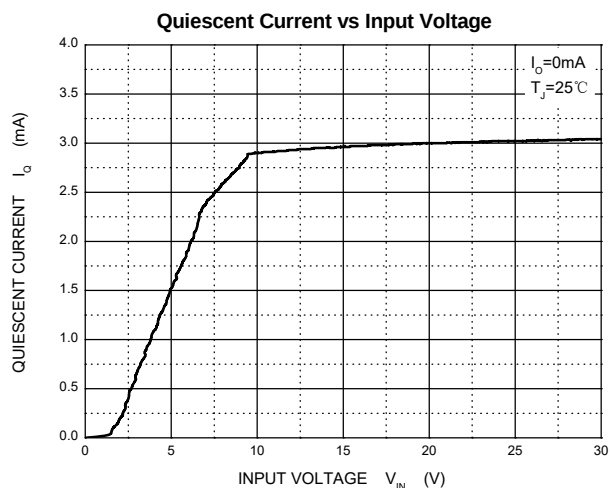
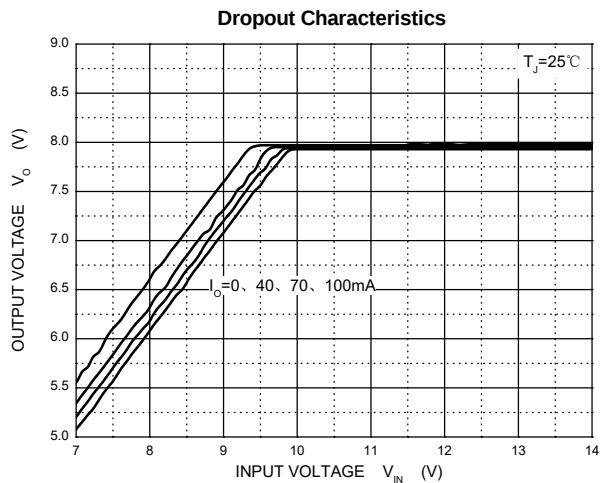
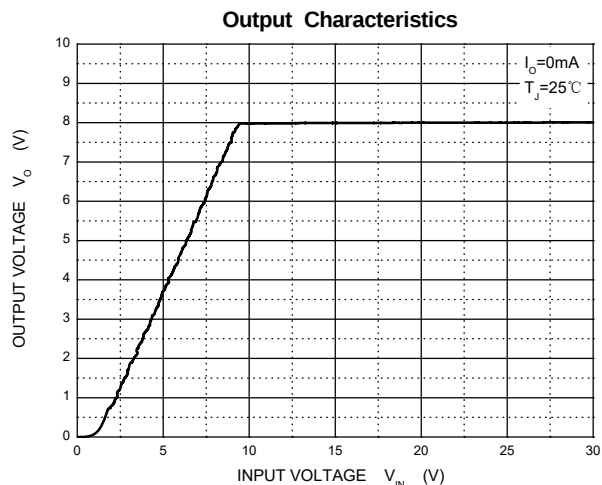
(6) Pulse test technology is used to make T_J as close to T_A as possible. Thermal effects must be considered separately.

(7) Output voltage tolerances of $\pm 3\%$ for conventional device, $\pm 2\%$ can be customized.

(8) Test the difference of output voltage and input voltage when input voltage is decreased gradually till output voltage equals to 95% of V_{OUT} .

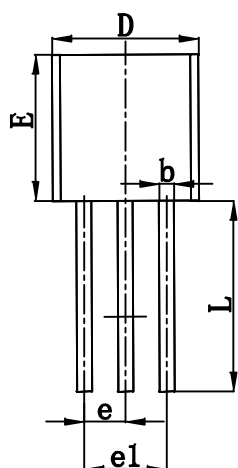
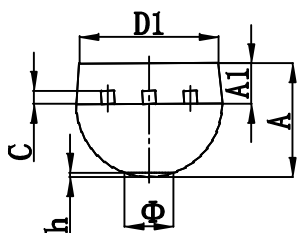


Typical Characteristics ($V_{OUT} = 8.0V$, $T_J = 25^\circ C$, unless otherwise specified)



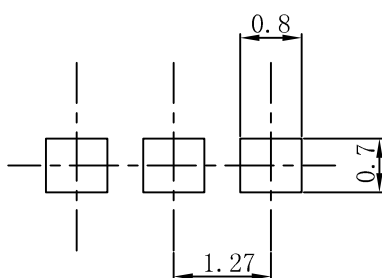


TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purpose only.



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