



**TO-92 Encapsulate Three-terminal Voltage Regulator**

**CJ78L06** Three-terminal positive voltage regulator

**FEATURES**

**Maximum Output current**

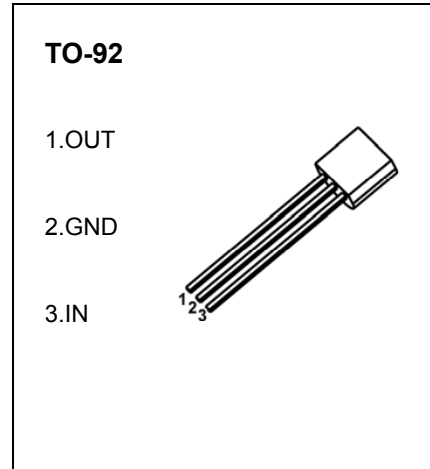
$I_{OM}: 0.1\text{ A}$

**Output voltage**

$V_o: 6\text{ V}$

**Continuous total dissipation**

$P_D: 0.625\text{ W}$



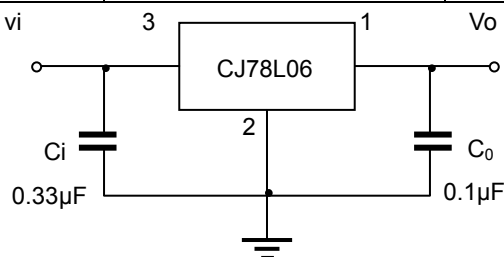
**ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)**

Parameter	Symbol	Value	Units
Input Voltage	$V_I$	30	V
Operating Junction Temperature Range	$T_{OPR}$	0 to +175	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C

**ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ( $V_I=11\text{V}, I_o=40\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$ , unless otherwise specified )**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	$V_o$	25°C	5.75	6.0	6.25	V
		8V ≤ $V_i$ ≤ 20V, $I_o=1\text{mA}-40\text{mA}$	5.7	6.0	6.3	V
		0-125°C, $I_o=1\text{mA}-70\text{mA}$	5.7	6.0	6.3	V
Load Regulation	$\Delta V_o$	$I_o=1\text{mA}-100\text{mA}$ , 25°C		16	80	mV
		$I_o=1\text{mA}-40\text{mA}$ , 25°C		9	40	mV
Line regulation	$\Delta V_o$	8V ≤ $V_i$ ≤ 20V, 25°C		35	175	mV
		9V ≤ $V_i$ ≤ 20V, 25°C		29	125	mV
Quiescent Current	$I_q$	25°C		3.9	6.0	mA
Quiescent Current Change	$\Delta I_q$	9V ≤ $V_i$ ≤ 20V, 0-125°C			1.5	mA
	$\Delta I_q$	1mA ≤ $I_o$ ≤ 40mA, 0-125°C			0.1	mA
Output Noise Voltage	$V_N$	10Hz ≤ $f$ ≤ 100KHz, 25°C		46		μV
Ripple Rejection	RR	9V ≤ $V_i$ ≤ 19V, $f=120\text{Hz}$ , 0-125°C	40	48		dB
Dropout Voltage	$V_d$	25°C		1.7		V

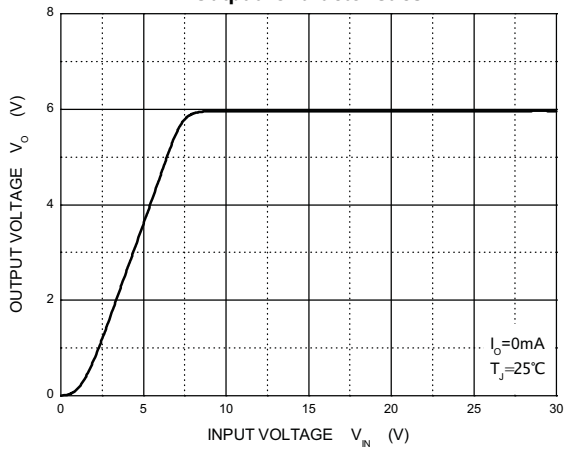
**TYPICAL APPLICATION**



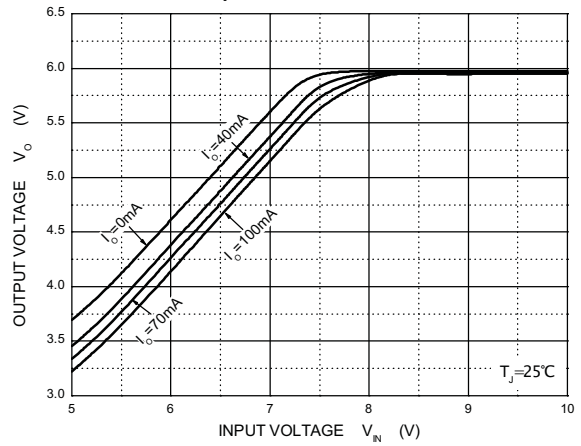
Note : Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

# Typical Characteristics

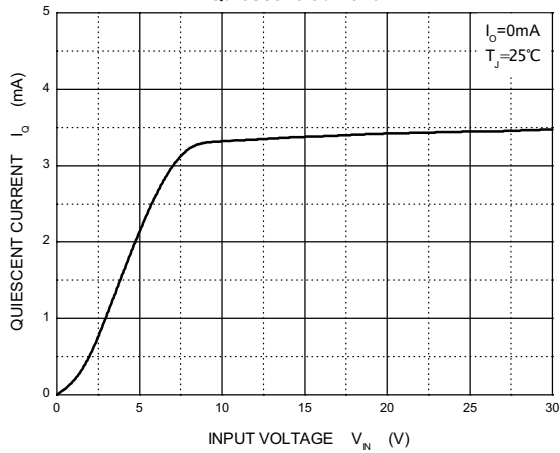
**Output Characteristics**



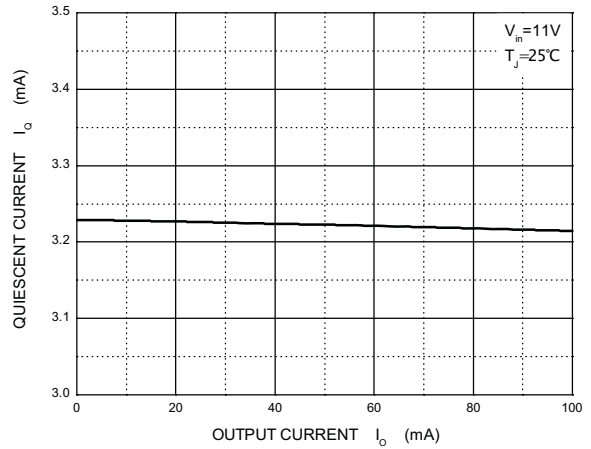
**Dropout Characteristics**



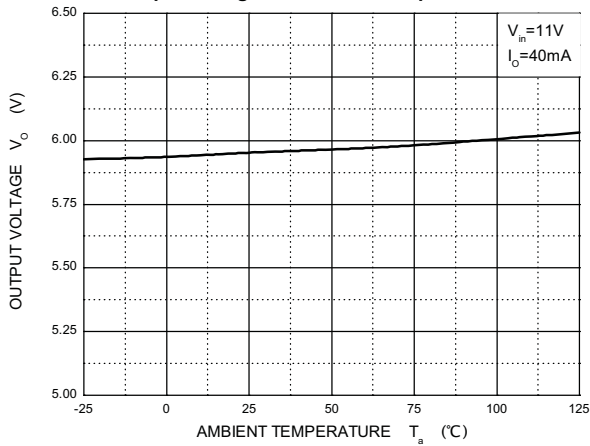
**Quiescent Current**



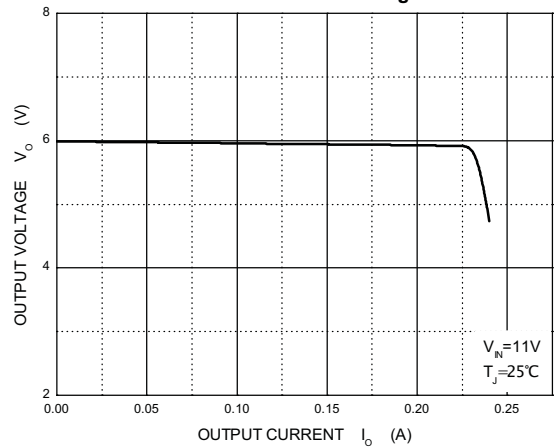
**Quiescent Current vs Output Current**



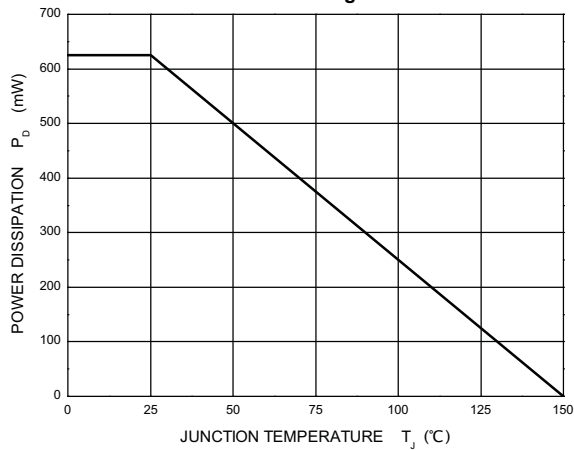
**Output Voltage vs Ambient Temperature**



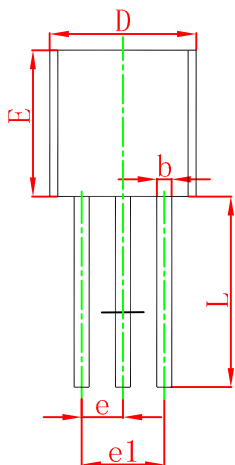
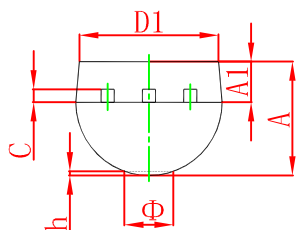
**Current Cut-off Grid Voltage**



**Power Derating Curve**

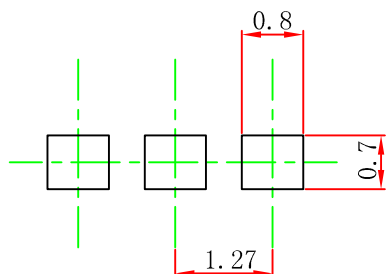


## TO-92 Package Outline Dimensions



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	4.400	4.700	0.173	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



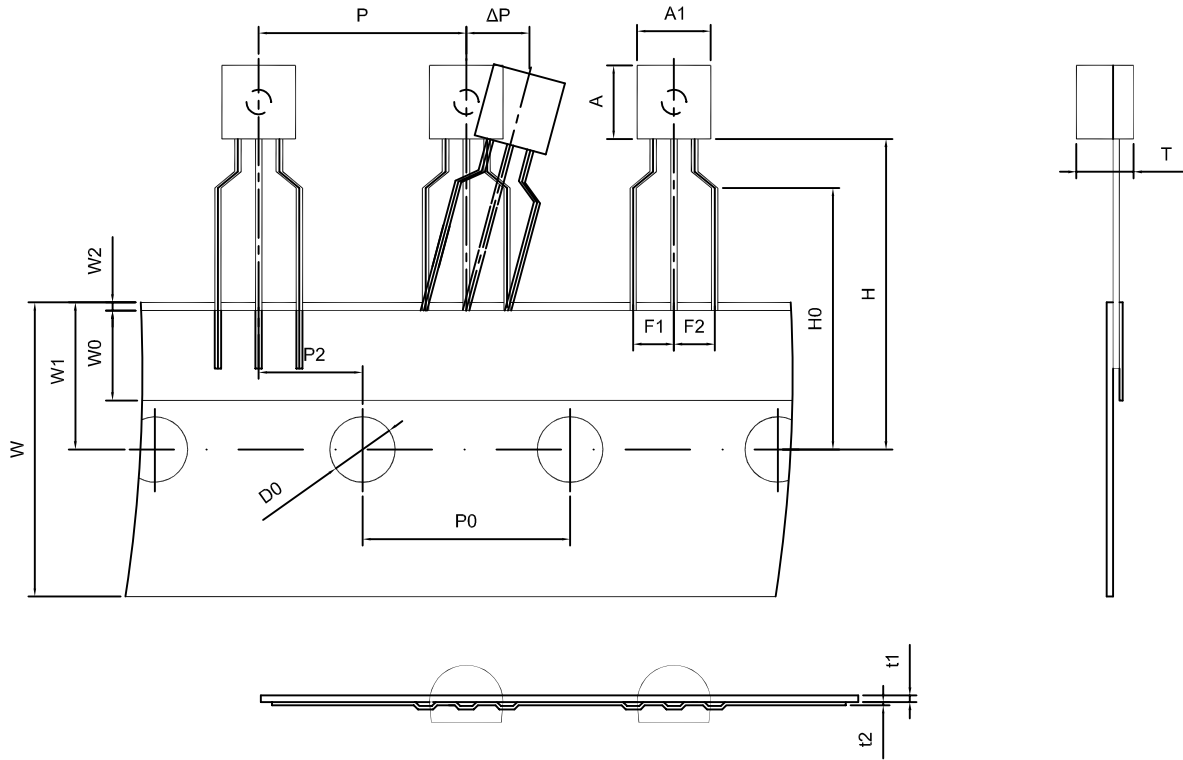
### Note:

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

### NOTICE

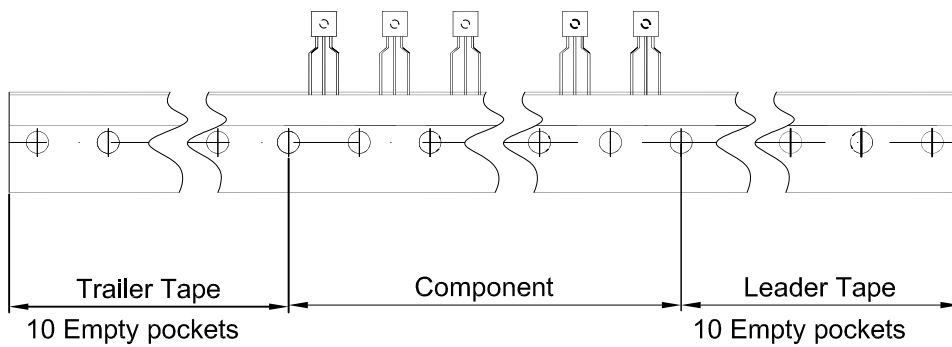
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# TO-92 PACKAGE TAPEING DIMENSION



Dimensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
4.5±0.2	4.5±0.2	3.5±0.2	12.7±0.3	12.7±0.2	6.35±0.3	2.5±0.3	2.5±0.3	18.0+1.0/-0.5
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0±0.5	9.0±0.5	1.0 MAX.	19.0±1.0	16.0±0.5	4.0±0.5	0.4±0.05	0.2±0.05	0 ± 1.0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250