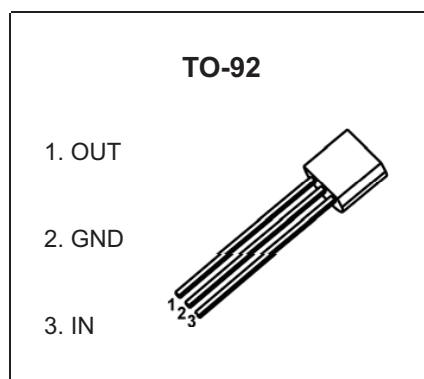


TO-92 Plastic-Encapsulate Voltage Regulators

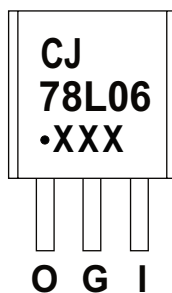
CJ78L06 Three-terminal positive voltage regulator

FEATURES

- Maximum output current
 $I_{OM}: 0.1A$
- Output voltage
 $V_O: 6V$
- Continuous total dissipation
 $P_D: 0.625 W (T_a= 25\text{ }^\circ\text{C})$



MARKING



CJ78L06=Device code
Solid dot=Green molding compound device,
if none,the normal device
XXX=Code

ORDERING INFORMATION

| Part Number | Package | Packing Method | Pack Quantity |
|-------------|---------|----------------|---------------|
| CJ78L06 | TO-92 | Bulk | 1000pcs/Bag |
| CJ78L06-TA | TO-92 | Tape | 2000pcs/Box |

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

| Parameter | Symbol | Value | Unit |
|---|-----------------|----------|--------------------|
| Input Voltage | V_i | 30 | V |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 160 | $^\circ\text{C}/W$ |
| Operating Junction Temperature Range | T_{OPR} | -25~+125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65~+150 | $^\circ\text{C}$ |

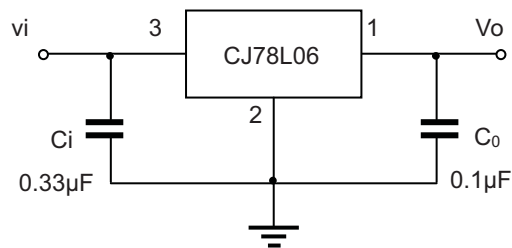
ELECTRICAL CHARACTERISTICS

$T_a=25^\circ\text{C}$ unless otherwise specified ($V_i=11\text{V}, I_o=40\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)

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

* Pulse test.

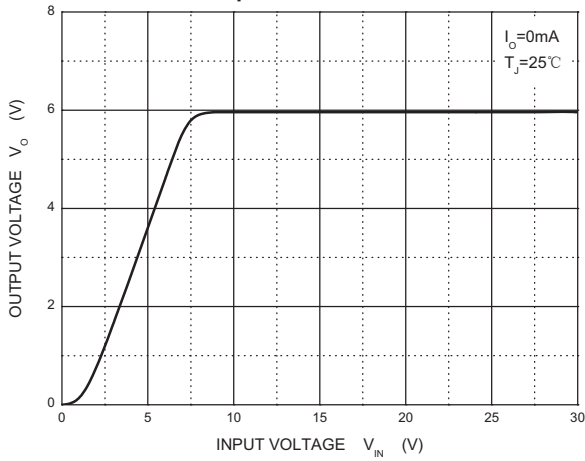
TYPICAL APPLICATION



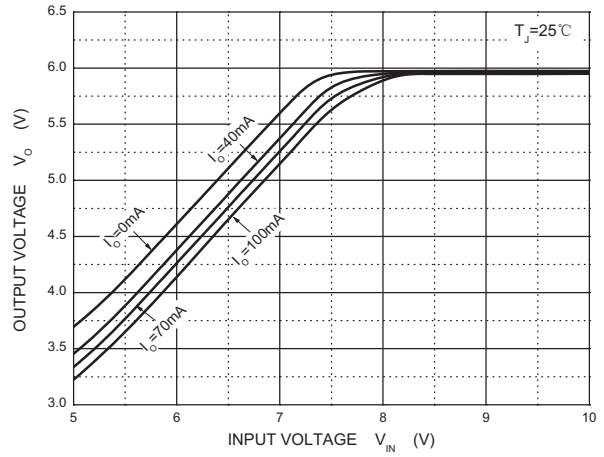
Note : Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

Typical Characteristics

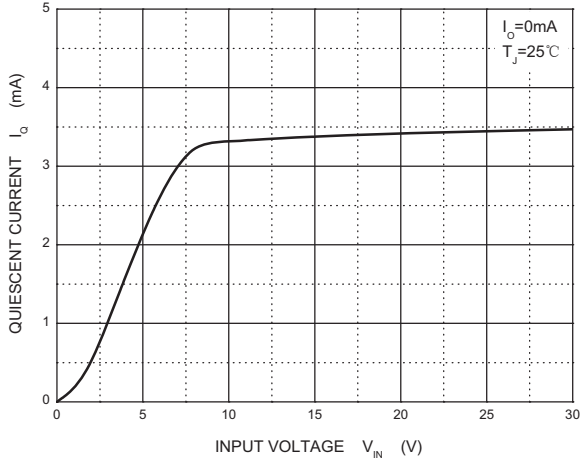
Output Characteristics



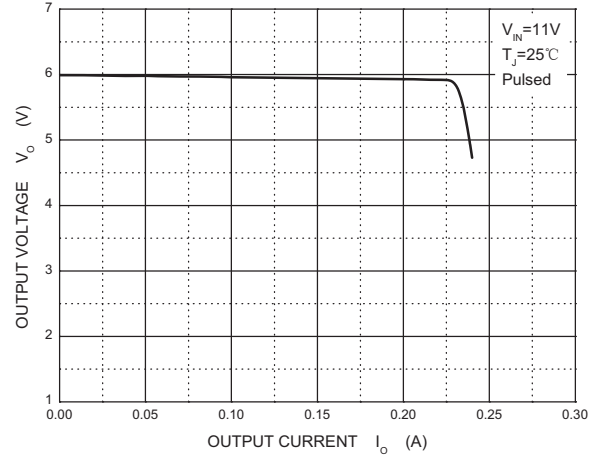
Dropout Characteristics



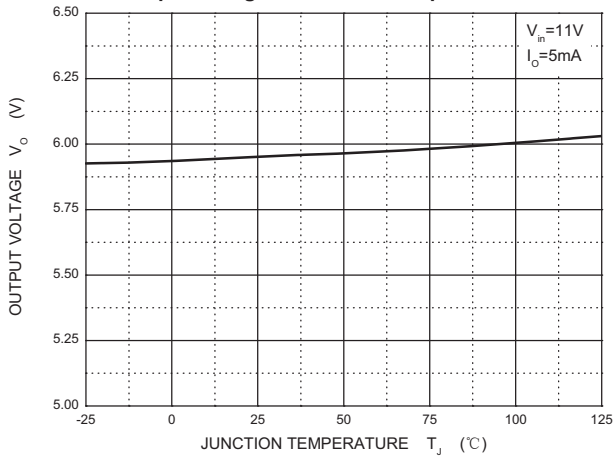
Quiescent Current



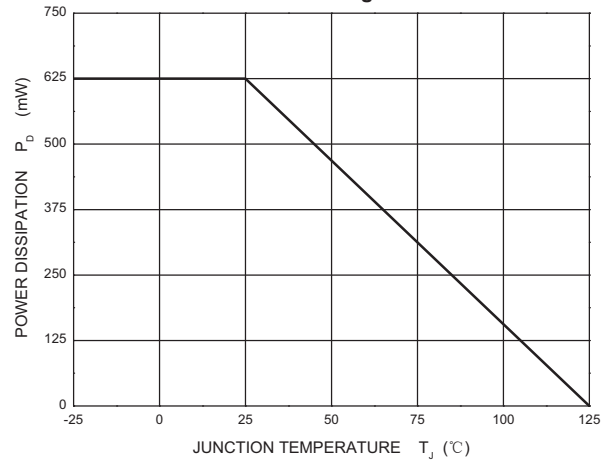
Current Cut-off Grid Voltage



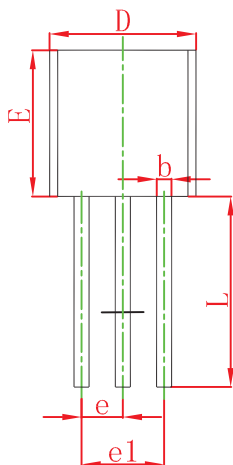
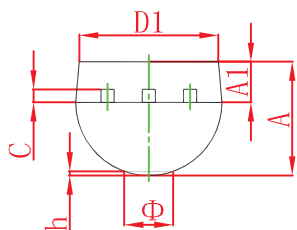
Output Voltage vs Junction Temperature



Power Derating Curve

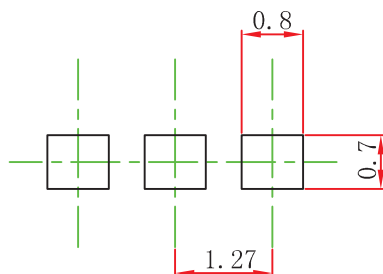


TO-92 Package Outline Dimensions



| 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:

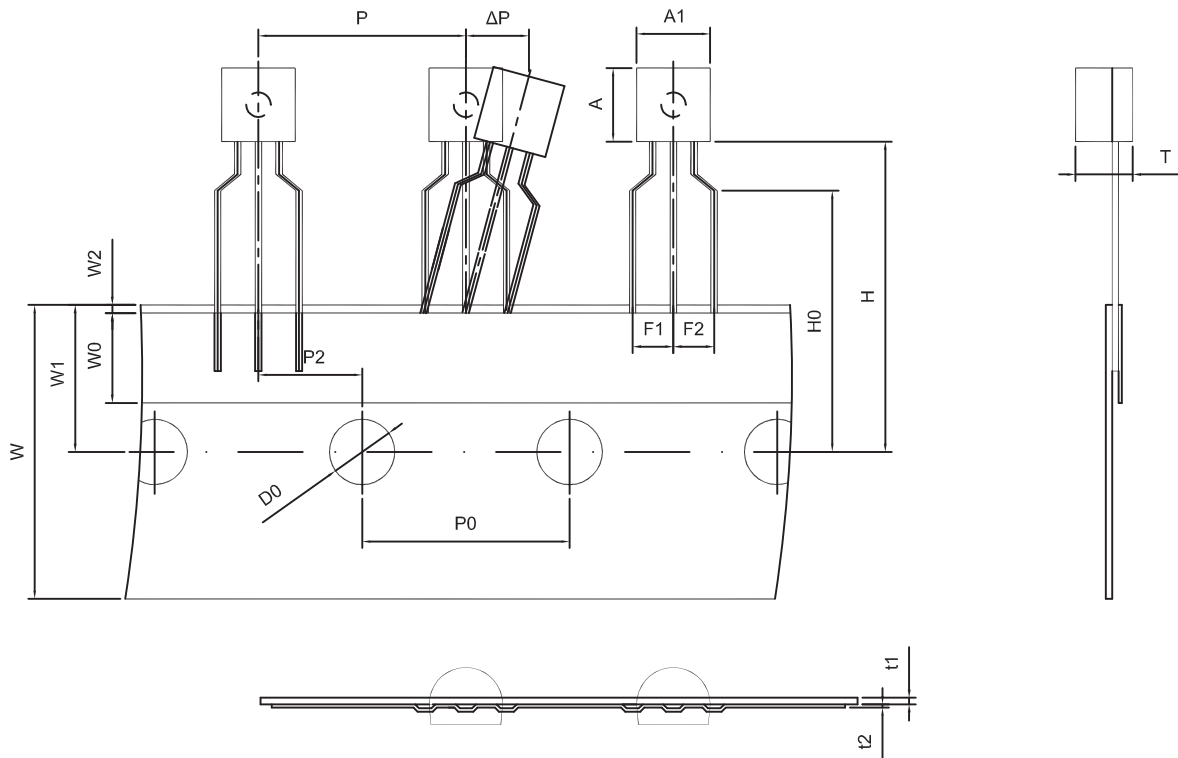
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

JCET reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JCET does not assume any liability arising out of the application or use of any product described herein.

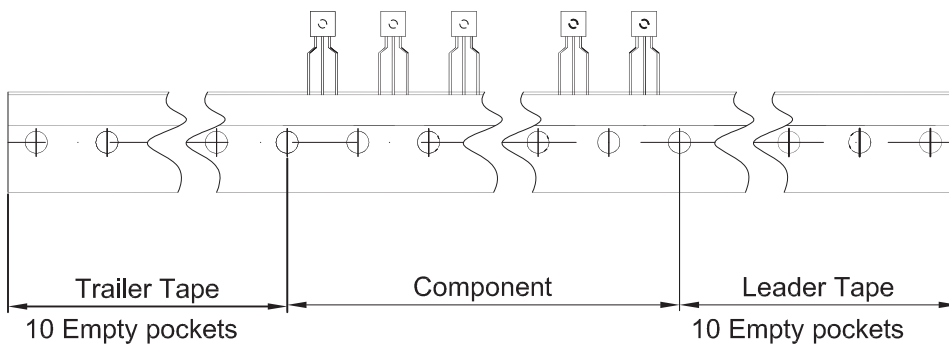
TO-92 PACKAGE TAPEING DIMENSION

TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter

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



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