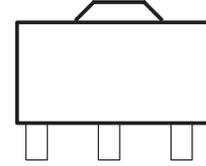


- 3-Terminal Regulators
- Output Current Up to 100 mA
- No External Components Required
- Internal Thermal-Overload Protection
- Internal Short-Circuit Current Limiting
- Provided Pb-Free packages from the end of 2004



TO-92
79L08ACZ



SOT-89
79L08CPK COMMON INPUT OUTPUT

description

This series of fixed negative-voltage integrated-circuit voltage regulators is designed for a wide range of applications. These include on-card regulation for elimination of noise and distribution problems associated with single-point regulation. In addition, they can be used to control series pass elements to make high-current voltage-regulator circuits. One of these regulators can deliver up to 100 mA of output current. The internal current-limiting and thermal-shutdown features make them essentially immune to overload. When used as a replacement for a zener-diode and resistor combination, these devices can provide effective improvement in output impedance of two orders of magnitude, with lower bias current.

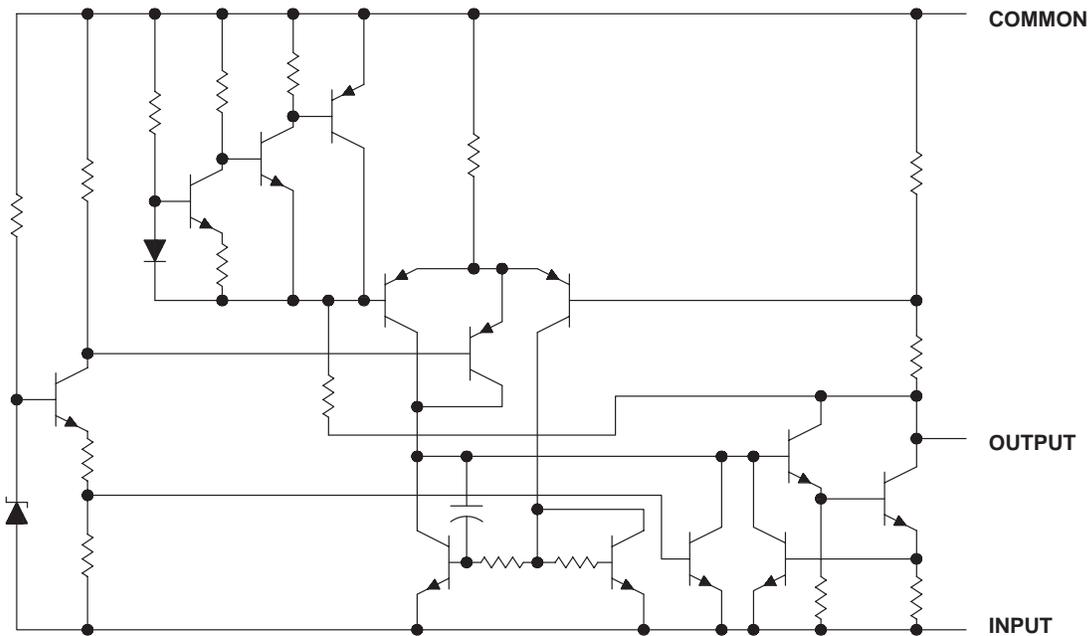
electrical characteristics at specified virtual junction temperature, $V_I = -14V$, $I_O = 40mA$ (unless otherwise noted)

| PARAMETER | TEST CONDITIONS | T ‡ | 79L06 | | | UNIT |
|---------------------------|--|------------|-------|-----|------|------|
| | | | MIN | TYP | MAX | |
| Output voltage | | 25°C | -7.7 | -8 | -8.3 | V |
| | $I_O = 1$ to 40mA, $V_I = -10.5V$ to -23V $I_O = 1mA$ to 70mA | Full range | -7.6 | | -8.4 | |
| Input voltage regulation | $V_I = -10.5V$ to -23V | 25°C | | 42 | 200 | mV |
| | $V_I = -11V$ to -23V | | | 36 | 150 | |
| Ripple rejection | $V_I = -11V$ to -23V $f = 120$ Hz | 25°C | 37 | 46 | | dB |
| Output voltage regulation | $I_O = 1$ mA to 40mA | 25°C | | 15 | 50 | mV |
| | $I_O = 1$ mA to 100mA | | | 30 | 100 | |
| Output noise voltage | $f = 10$ Hz to 100 kHz | 25°C | | 54 | | µV |
| Dropout voltage | | 25°C | | 1.7 | | V |
| Bias current | | 25°C | | 3 | 6 | mA |
| | | 125°C | | | 5.5 | |
| Bias current change | $V_I = -11V$ to -23V | Full range | | | 1.5 | mA |
| | $I_O = 1$ mA to 40 mA | | | | 0.1 | |

‡ Pulse-testing techniques maintain T_J as close to T_A as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 0.33-µF capacitor across the input and a 0.1-µF capacitor across the output. Full range for the 79L08 is $T_J = 0°C$ to $70°C$

WS 79L08

equivalent schematic



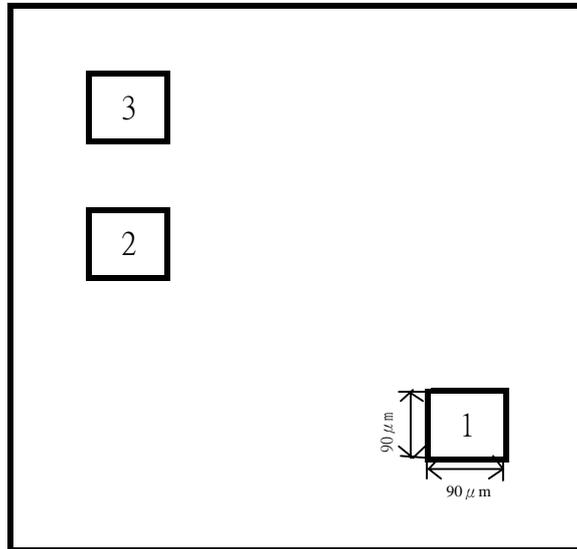
absolute maximum ratings over operating free-air temperature range (unless otherwise noted)†

| | |
|--|------------------|
| Input voltage: 79L08 | -30V |
| Operating free-air, case, or virtual junction temperature..... | 150 °C |
| Lead temperature 1.6 mm (1/16 inch) from case for 10 seconds | 260 °C |
| Storage temperature range, T_{stg} | -65 °C to 150 °C |

recommended operating conditions

| 79L08 | MIN | MAX | UNIT |
|---|-------|-----|------|
| Input voltage, V_I | -10.5 | -23 | v |
| Output current, I_O | | 100 | mA |
| Operating virtual junction temperature, T_J | 0 | 70 | °C |

Pad Location WS79L00



chip size 1.15 x 1.35mm

Pad Location Coordinates

| Pad N | Pad Name | X(μ m) | Y(μ m) |
|-------|----------|---------|---------|
| 1 | Ground | 1150 | 115 |
| 2 | Input | 115 | 690 |
| 3 | Output | 115 | 950 |