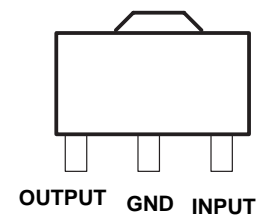
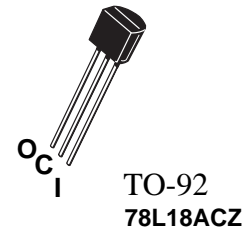


- 3-Terminal Regulators
- Output Current up to 100 mA
- No External Components
- Internal Thermal-Overload Protection
- Internal Short-Circuit Current Limiting
- Direct Replacements for Fairchild μ A78L18 Series

description

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



SOT-89
78L18CPK

electrical characteristics at specified virtual junction temperature, $V_I = 26V$, $I_O = 40mA$ (unless otherwise noted)

| PARAMETER | TEST CONDITIONS | T ‡ | 78L18 | | | UNIT |
|---------------------------|--|------------|-------|-----|------|---------|
| | | | MIN | TYP | MAX | |
| Output voltage | | 25°C | 17.3 | 18 | 18.7 | V |
| | $I_O = 1mA$ to 40mA, $V_I = 20.5$ to 33V | Full range | 17.1 | 18 | 18.9 | |
| | $I_O = 1$ mA to 70 mA | Full range | 17.1 | 18 | 18.9 | |
| Input voltage regulation | $V_I = 20.5V$ to 33V | 25°C | | 70 | 360 | mV |
| | $V_I = 22V$ to 33V | | | 64 | 300 | |
| Ripple rejection | $V_I = 21.5V$ to 31.5V, $f = 120$ Hz | 25°C | 32 | 36 | | dB |
| Output voltage regulation | $I_O = 1$ mA to 100 mA | 25°C | | 27 | 180 | mV |
| | $I_O = 1$ mA to 40 mA | | | 19 | 90 | |
| Output noise voltage | $f = 10$ Hz to 100 kHz | 25°C | | 89 | | μ V |
| Dropout voltage | | 25°C | | 1.7 | | V |
| Bias current | | 25°C | | 4.7 | 6.5 | mA |
| | | 125°C | | | 6 | |
| Bias current change | $V_I = 22V$ to 33V | 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- μ F capacitor across the input and a 0.1- μ F capacitor across the output. Full range for the 78L05 is $T_J = 0^\circ C$ to $70^\circ C$

WS 78L18

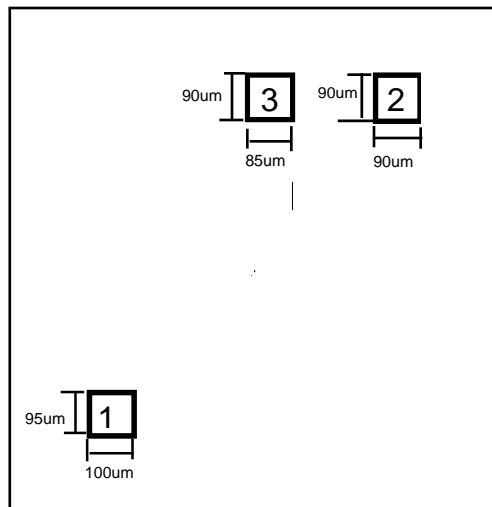
absolute maximum ratings over operating temperature range (unless otherwise noted)

| 78L18 | PARAMETER | UNIT |
|--|------------|------|
| Input voltage, V_I | 35 | V |
| Virtual junction temperature range, T_J | 150 | °C |
| Lead temperature 1,6 mm (1/16 inch) from case for 10 seconds | 260 | °C |
| Storage temperature range, T_{stg} | -65 to 150 | °C |

recommended operating conditions

| 78L18 | MIN | MAX | UNIT |
|---|------|-----|------|
| Input voltage, V_I | 20.5 | 33 | V |
| Output current, I_O | | 100 | mA |
| Operating virtual junction temperature, T_J | 0 | 70 | °C |

Pad Location 78L18



Chip size 1.0 x 1.2 mm

| Pad N | Pad Name | X (um) | Y (um) |
|-------|----------|--------|--------|
| 1 | Ground | 95 | 100 |
| 2 | Input | 820 | 1010 |
| 3 | Output | 535 | 1015 |