



SOT-89 Encapsulate Three Terminal Voltage Regulator

CJ78L12 Three-terminal positive voltage regulator

FEATURES

Maximum Output current

I_{OM} : 0.1 A

Output voltage

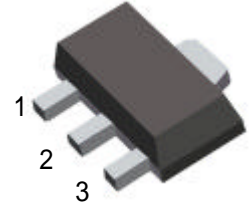
V_o : 12 V

SOT-89

1. OUT

2. GND

3. IN



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

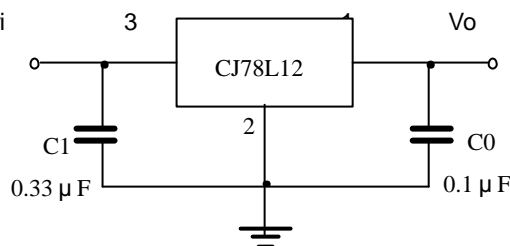
| Parameter | Symbol | Value | Units |
|--------------------------------------|-----------|---------|-------|
| Input Voltage | V_I | 35 | V |
| Operating Junction Temperature Range | T_{OPR} | 0—+125 | |
| Storage Temperature Range | T_{STG} | -5—+150 | |

UTC78L05 ELECTRICAL CHARACTERISTICS

($V_I=19V, I_o=40mA, 0 < T_j < 125$, $C_1=0.33 \mu F, C_o=0.1 \mu F$, unless otherwise specified)

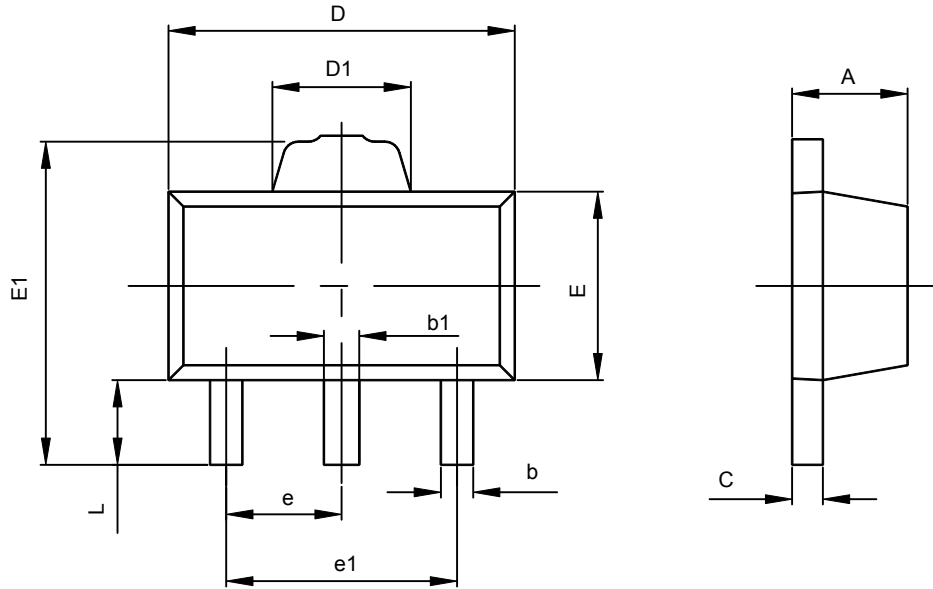
| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------|--------|--|------|-----|------|----------|
| Output voltage | V_o | $T_j=25$ | 11.5 | 12 | 12.5 | V |
| | | 14V V_I 27V, $I_o=1mA-40mA$ | 11.4 | 12 | 12.6 | V |
| | | 14.5V V_I V_{MAX} , $I_o=1mA-70mA$ | 11.4 | 12 | 12.6 | V (note) |
| Load Regulation | V_o | $T_j=25$, $I_o=1mA-100mA$ | | 22 | 100 | mV |
| | | $T_j=25$, $I_o=1mA-40mA$ | | 13 | 50 | mV |
| Line regulation | V_o | 14.5V V_I 27V, $T_j=25$ | | 55 | 250 | mV |
| | | 16V V_I 27V, $T_j=25$ | | 49 | 200 | mV |
| Quiescent Current | I_q | | | 4.3 | 6.5 | mA |
| Quiescent Current Change | I_q | 16V V_I 27V | | | 1.5 | mA |
| | I_q | 1mA I_o 40mA | | | 0.1 | mA |
| Output Noise Voltage | V_N | 10Hz f 100KHz | | 70 | | μV |
| Ripple Rejection | RR | 15V V_I 25V, $f=120Hz, T_j=25$ | 37 | 42 | | dB |
| Dropout Voltage | V_d | $T_j=25$ | | 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.

SOT-89-3L PACKAGE OUTLINE DIMENSIONS



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 1.400 | 1.600 | 0.055 | 0.063 |
| b | 0.320 | 0.520 | 0.013 | 0.020 |
| b1 | 0.360 | 0.560 | 0.014 | 0.022 |
| c | 0.350 | 0.440 | 0.014 | 0.017 |
| D | 4.400 | 4.600 | 0.173 | 0.181 |
| D1 | 1.400 | 1.800 | 0.055 | 0.071 |
| E | 2.300 | 2.600 | 0.091 | 0.102 |
| E1 | 3.940 | 4.250 | 0.155 | 0.167 |
| e | 1.500TYP | | 0.060TYP | |
| e1 | 2.900 | 3.100 | 0.114 | 0.122 |
| L | 0.900 | 1.100 | 0.035 | 0.043 |