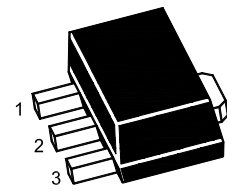


ST 78L12U

3-Terminal Positive Voltage Regulator



1.OUT 2.GND 3.IN
SOT-89 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

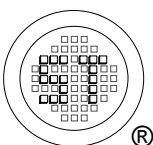
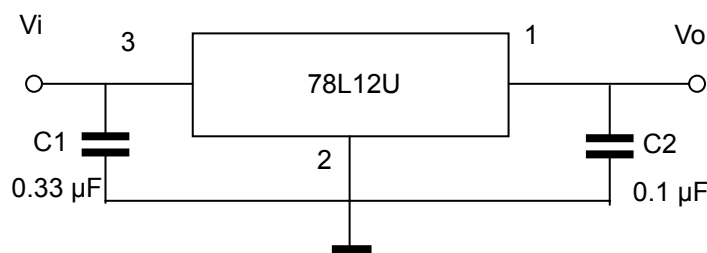
| Parameter | Symbol | Rating | Unit |
|---------------------------|-----------|-------------------|------------------|
| Input Voltage | V_i | 35 | V |
| Power Dissipation | P_{tot} | 800 ¹⁾ | mW |
| Operating Temperature | T_{opr} | - 20 to + 120 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 55 to +150 | $^\circ\text{C}$ |

¹⁾ 15 mm X 25 mm X 0.7 mm alumina ceramic board, $T_a \leq 25\text{ }^\circ\text{C}$

Electrical Characteristics ($T_a = 25\text{ }^\circ\text{C}$)

(Unless otherwise specified, $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$, $V_i = 19\text{ V}$, $I_o = 40\text{ mA}$, $C_1 = 0.33\text{ }\mu\text{F}$, $C_o = 0.1\text{ }\mu\text{F}$)

| Parameter | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|--------------------------|--------------|--|------|------|------|---------------|
| Output Voltage | V_o | $T_j = 25\text{ }^\circ\text{C}$ | 11.5 | 12 | 12.5 | V |
| | | $14.5\text{ V} \leq V_i \leq 27\text{ V}$, $1\text{ mA} \leq I_o \leq 40\text{ mA}$ | 11.4 | - | 12.6 | V |
| | | $V_i = 19\text{ V}$, $1\text{ mA} \leq I_o \leq 70\text{ mA}$ | 11.4 | - | 12.6 | V |
| Line Regulation | Regline | $14.5\text{ V} \leq V_i \leq 27\text{ V}$, $T_j = 25\text{ }^\circ\text{C}$ | - | - | 250 | mV |
| | | $16\text{ V} \leq V_i \leq 27\text{ V}$, $T_j = 25\text{ }^\circ\text{C}$ | - | - | 200 | |
| Load Regulation | Regload | $1\text{ mA} \leq I_o \leq 100\text{ mA}$, $T_j = 25\text{ }^\circ\text{C}$ | - | - | 100 | mV |
| | | $1\text{ mA} \leq I_o \leq 40\text{ mA}$, $T_j = 25\text{ }^\circ\text{C}$ | - | - | 50 | |
| Quiescent Current | I_Q | $T_j = 25\text{ }^\circ\text{C}$ | - | - | 6 | mA |
| Quiescent Current Change | ΔI_Q | $16\text{ V} \leq V_i \leq 27\text{ V}$ | - | - | 1.5 | mA |
| | | $1\text{ mA} \leq I_o \leq 40\text{ mA}$ | - | - | 0.1 | |
| Output Noise Voltage | V_N | $10\text{ Hz} \leq f \leq 100\text{ KHz}$, $T_j = 25\text{ }^\circ\text{C}$ | - | 80 | - | μV |
| Ripple Rejection | RR | $f = 120\text{ Hz}$, $15\text{ V} \leq V_i \leq 25\text{ V}$, $T_j = 25\text{ }^\circ\text{C}$ | 37 | - | - | dB |
| Dropout Voltage | V_{Drop} | $T_j = 25\text{ }^\circ\text{C}$ | - | 1.7 | - | V |



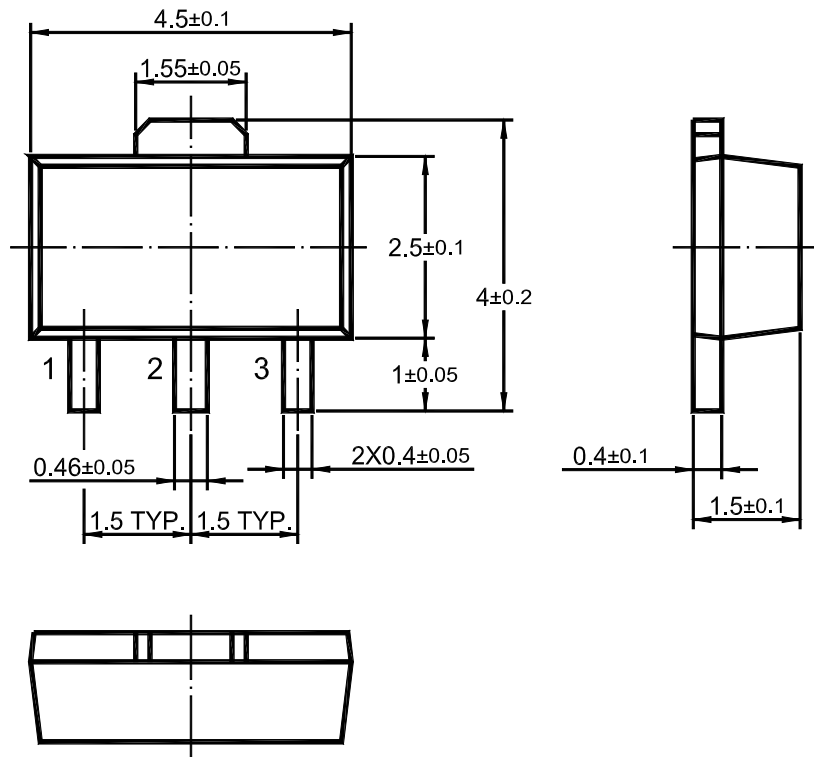
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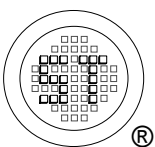
Dated : 21/06/2006

ST 78L12U

SOT-89 PACKAGE OUTLINE



Dimensions in mm



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