

78M12 Three-terminal positive voltage regulator

FEATURES:

※ Maximum output current

IOM: 1A

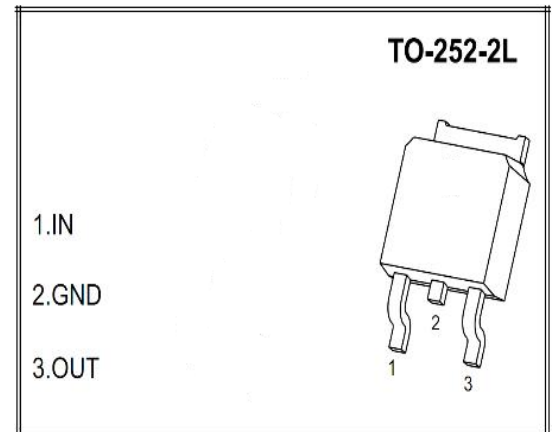
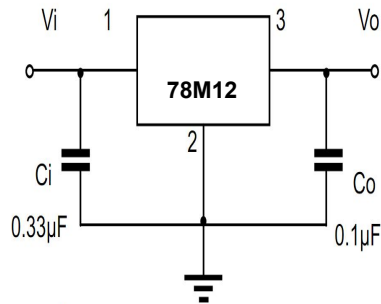
※ Output voltage

VO: 12V

※ Continuous total dissipation

PD: 1.25W

TYPICAL APPLICATION:



Absolute Maximum ratings (Operating temperature range applies unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|-----------------|----------|---------------|
| Input Voltage | V_i | 35 | V |
| Thermal Resistance From Junction to air | $R_{\theta JA}$ | 80 | $^{\circ}C/W$ |
| Operating Junction Temperature Range | TOPR | -25~+125 | $^{\circ}C$ |
| Storage Temperature Range | TSTG | -55~+150 | $^{\circ}C$ |

Electrical Characteristics At Specified Virtual Junction Temperature

($V_i=19V$, $I_o=350mA$, $C_i=0.33\mu F$, $C_o=0.1\mu F$. Unless Otherwise Specified)

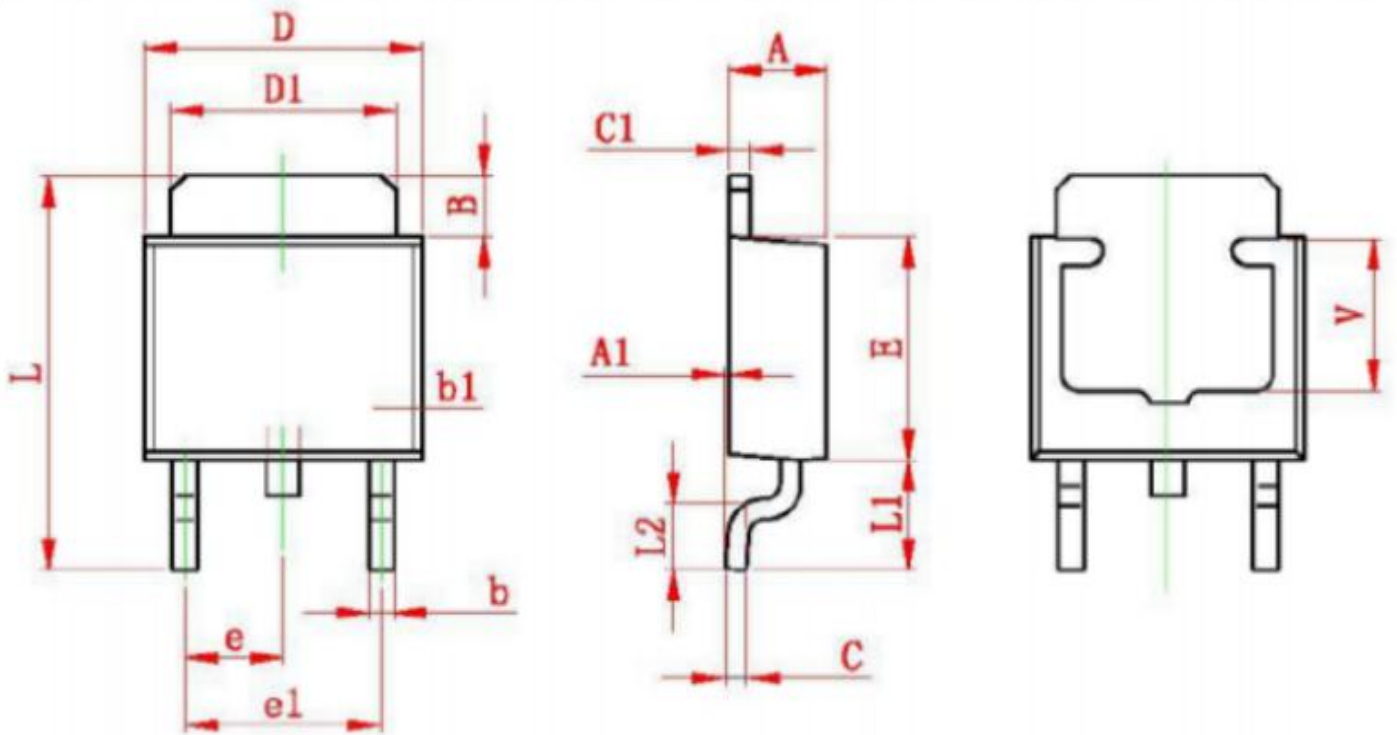
| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit | |
|--------------------------|--------------|---|---------------|------|------|------|-------------|
| Output voltage | V_O | $25^{\circ}C$ | 11.5 | 12 | 12.5 | V | |
| | | $14.5V \leq V_i \leq 27V, I_o=5mA-350mA$ | -25~+125 | 11.4 | 12 | 12.6 | V |
| Load Regulation | ΔV_O | $I_o=5mA-0.5A, V_i=19V$ | $25^{\circ}C$ | | 25 | 240 | mV |
| | | $I_o=5mA-200mA, V_i=19V$ | $25^{\circ}C$ | | 10 | 120 | mV |
| Line Regulation | ΔV_O | $14.5V \leq V_i \leq 30V, I_o=200mA$ | $25^{\circ}C$ | | 10 | 100 | mV |
| | | $16V \leq V_i \leq 30V, I_o=200mA$ | $25^{\circ}C$ | | 3 | 50 | mV |
| Quiescent Current | I_q | | $25^{\circ}C$ | | 4.6 | 6 | mA |
| Quiescent Current Change | ΔI_q | $14.5V \leq V_i \leq 30V, I_o=200mA$ | -25~+125 | | | 0.8 | mA |
| | | $5mA \leq I_o \leq 350mA$ | -25~+125 | | | 0.5 | mA |
| Output Noise Voltage | V_N | $10Hz \leq f \leq 100KHz$ | $25^{\circ}C$ | | 75 | 200 | $\mu V/V_o$ |
| Ripple Rejection | R_r | $15V \leq V_i \leq 25V, f=120Hz, I_o=300mA$ | -25~+125 | 55 | 80 | | dB |
| Dropout Voltage | V_d | $I_o=350mA$ | $25^{\circ}C$ | | 2 | 2.5 | V |
| Short Circuit Current | I_{sc} | $V_i=19V$ | $25^{\circ}C$ | | 240 | | mA |
| Peak Current | IPK | | $25^{\circ}C$ | | 0.7 | | A |

Note :

Bypass Capacitors are Recommended For Optimum Stability and Transient Response and Should be located as Close as Possible to the Regulators

78M12

Package Dimensions:



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 2.200 | 2.400 | 0.087 | 0.094 |
| A1 | 0.000 | 0.127 | 0.000 | 0.005 |
| B | 1.350 | 1.650 | 0.053 | 0.065 |
| b | 0.500 | 0.700 | 0.020 | 0.028 |
| b1 | 0.700 | 0.900 | 0.028 | 0.035 |
| c | 0.430 | 0.580 | 0.017 | 0.023 |
| c1 | 0.430 | 0.580 | 0.017 | 0.023 |
| D | 6.350 | 6.650 | 0.250 | 0.262 |
| D1 | 5.200 | 5.400 | 0.205 | 0.213 |
| E | 5.400 | 5.700 | 0.213 | 0.224 |
| e | 2.300 TYP | | 0.091 TYP | |
| e1 | 4.500 | 4.700 | 0.177 | 0.185 |
| L | 9.500 | 9.900 | 0.374 | 0.390 |
| L1 | 2.550 | 2.900 | 0.100 | 0.114 |
| L2 | 1.400 | 1.780 | 0.055 | 0.070 |
| V | 3.80 REF | | 0.150 REF | |