

TO-252/251 Plastic-Encapsulate MOSFETS

L78M05

Three-terminal positive voltage regulator

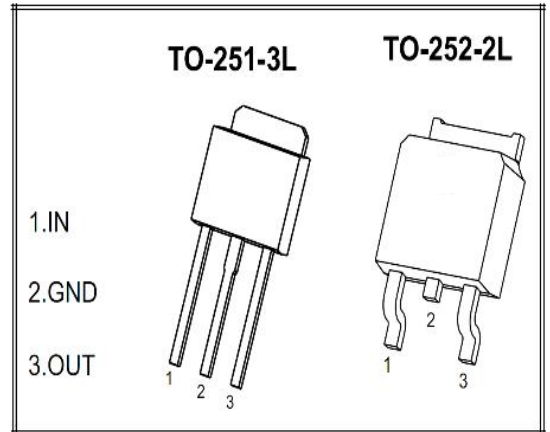
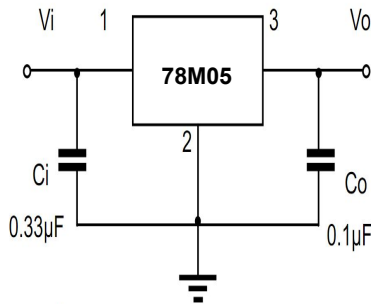
FEATURES:

- ※ Maximum output current
IOM: 0.5A
- ※ Output voltage
VO: 5V
- ※ Continuous total dissipation
PD: 1.25W

MARKING:

78M05 D / U ****
(D→252) / (U→251) ****→Date

TYPICAL APPLICATION:



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

| Parameter | Symbol | Value | Unit |
|---|--------|----------|------|
| Input Voltage | Vi | 35 | V |
| Thermal Resistance From Junction to air | RθJA | 80 | °C/W |
| Operating Junction Temperature Range | TOPR | -25~+125 | °C |
| Storage Temperature Range | TSTG | -55~+150 | °C |

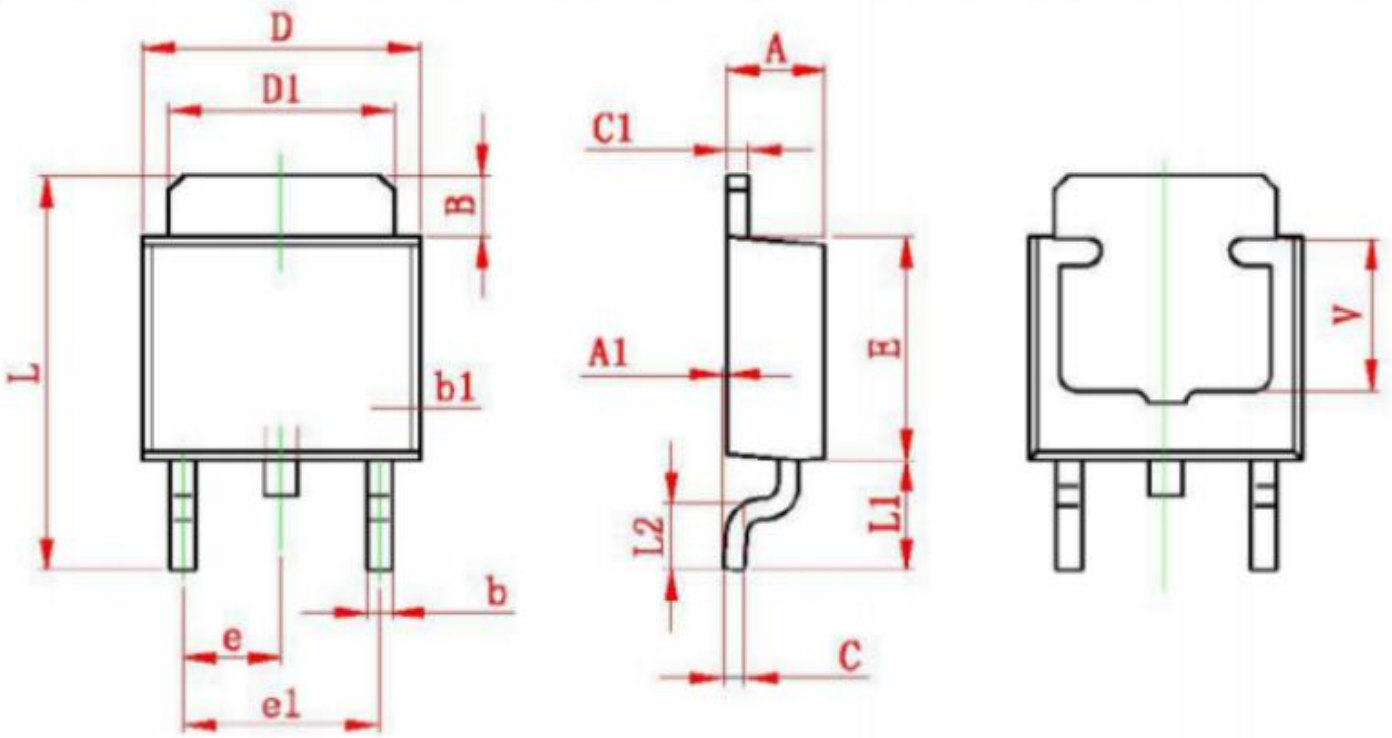
Electrical Characteristics At Specified Virtual Junction Temperature (Vi=10V, Io=350mA, Ci=0.33µF, Co=0.1µF. Unless Otherwise Specified)

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit | |
|--------------------------|--------|-----------------------------------|----------|------|-----|------|-------|
| Output voltage | VO | 25°C | 4.8 | 5 | 5.2 | V | |
| | | 7V≤Vi≤20V, Io=5mA-350mA | -25~+125 | 4.75 | 5 | 5.25 | V |
| Load Regulation | ΔVO | Io=5mA-0.5A, Vi=10V | 25°C | | 15 | 100 | mV |
| | | Io=5mA-200mA, Vi=10V | 25°C | | 5 | 50 | mV |
| Line Regulation | ΔVO | 10.5V≤Vi≤25V, Io=200mA | 25°C | | 3 | 100 | mV |
| | | 11V≤Vi≤25V, Io=200mA | 25°C | | 1 | 50 | mV |
| Quiescent Current | Iq | 25°C | | 4.2 | 6 | mA | |
| Quiescent Current Change | ΔIq | 10.5V≤Vi≤25V, Io=200mA | -25~+125 | | | 0.8 | mA |
| | | 5mA≤Io≤350mA | -25~+125 | | | 0.5 | mA |
| Output Noise Voltage | VN | 10Hz≤f≤100KHz | 25°C | | 40 | 200 | µV/Vo |
| Ripple Rejection | Rr | 11.5V≤Vi≤21.5V, f=120Hz, Io=300mA | -25~+125 | 62 | 80 | | dB |
| Dropout Voltage | Vd | Io=350mA | 25°C | | 2 | 2.5 | V |
| Short Circuit Current | Isc | Vi=10v | 25°C | | 300 | | mA |
| Peak Current | IPK | | 25°C | | 0.5 | | A |

Note :

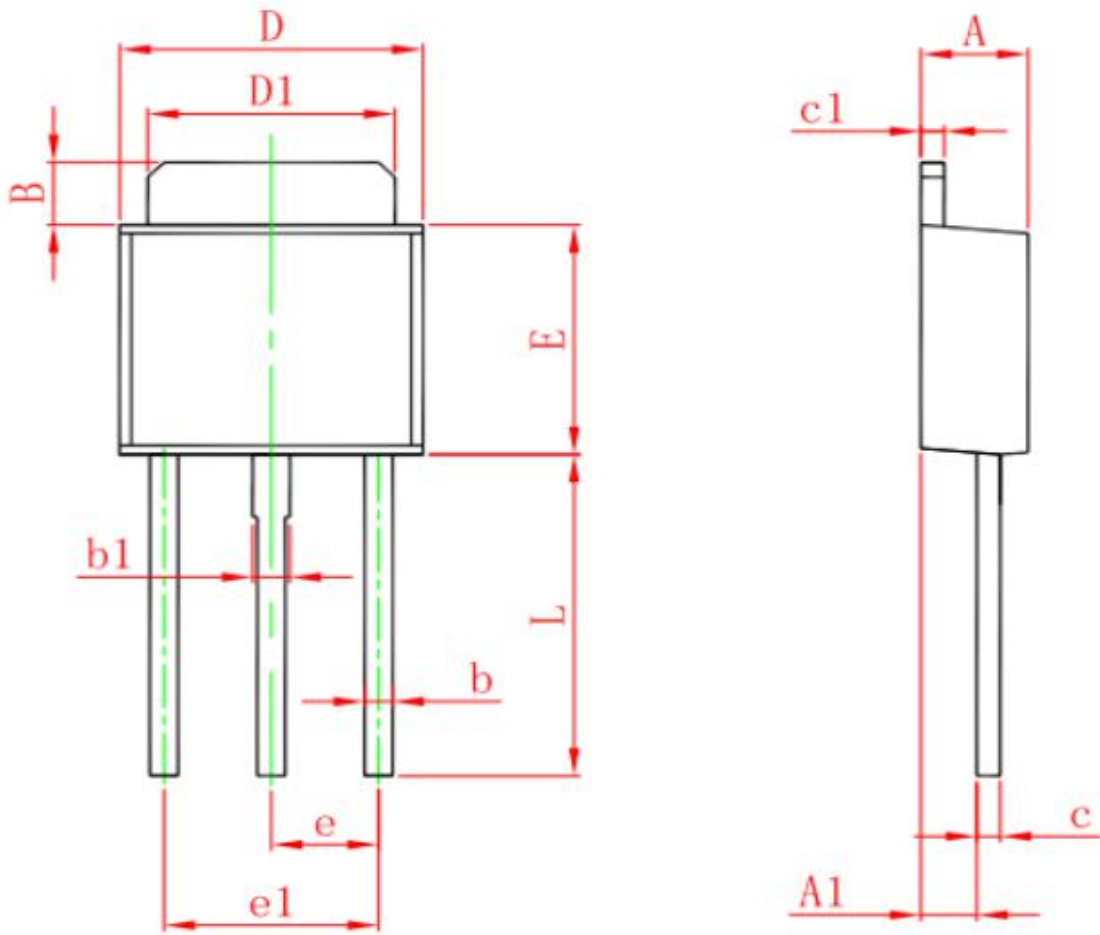
Bypass Capacitors are Recommended For Optimum Stability and Transient Response and Should be located as Close as Possible to the Regulators

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 | |

Package Dimensions:



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.200 | 2.400 | 0.087 | 0.094 |
| A1 | 1.050 | 1.350 | 0.042 | 0.054 |
| 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 | 7.500 | 7.900 | 0.295 | 0.311 |