

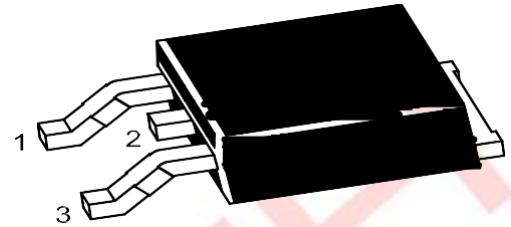
AT78M05TE

3-Terminal Voltage Regulator

Features

- ◆ Input Voltage up to 35V
- ◆ Output Voltage:5V
Output Current: 0.5A (Max)
- ◆ Overload Protection and Short-Circuit Limiting.

TO-252



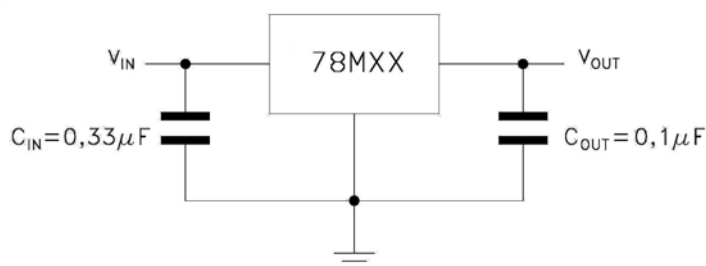
1 · IN 2 · GND 3 · OUT

Absolute Maximum Ratings

Ratings at $T_A = 25^\circ\text{C}$ unless otherwise specified.

| Parameter | Symbol | Value | Unit |
|-------------------------------------|------------------|---------|---------------------------|
| Input Voltage | V_I | 35 | V |
| Thermal Resistance Junction-Ambient | $R_{\theta JA}$ | 100 | $^\circ\text{C}/\text{W}$ |
| Thermal Resistance Junction-Case | $R_{\theta JC}$ | 8.0 | $^\circ\text{C}/\text{W}$ |
| Operating Temperature Range | T_{OPR} | -40~125 | $^\circ\text{C}$ |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55~150 | $^\circ\text{C}$ |

Application Circuit



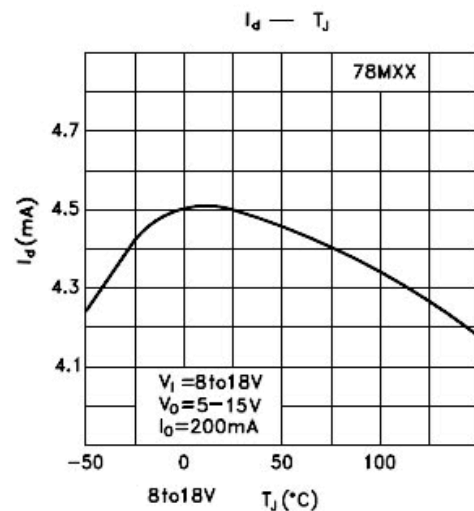
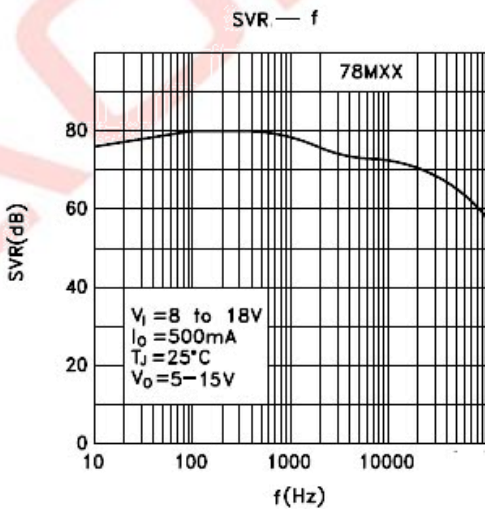
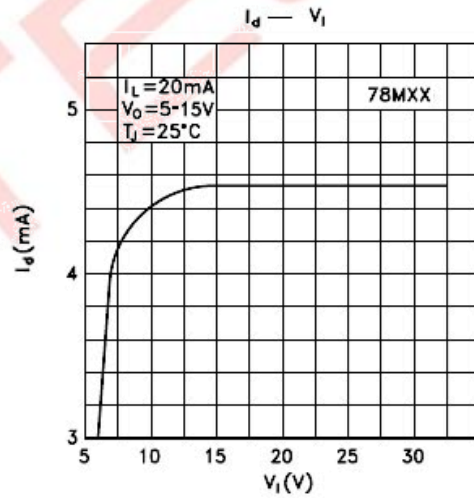
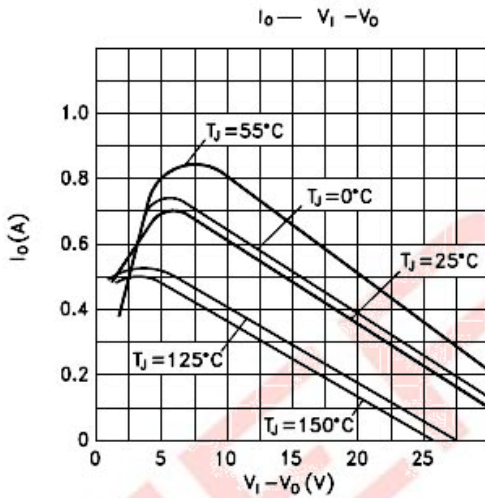
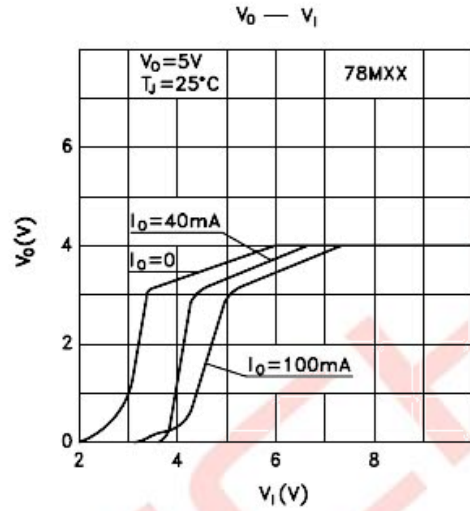
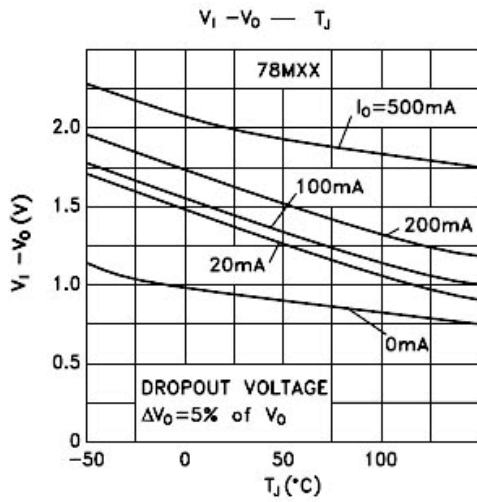
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Electrical Characteristics

Ratings at $T_A = 25^\circ\text{C}$ unless otherwise specified.

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|----------------------------|-----------------------|--|-----|------|-----|----------------------------|
| Output Voltage | V_O | $T_J=25^\circ\text{C}$ | 4.9 | 5 | 5.1 | V |
| | | $V_i=7\text{V}\sim 20\text{V}$ $I_o=5\text{mA}\sim 350\text{mA}$ | 4.8 | 5 | 5.2 | V |
| Load Regulation | ΔV_O | $I_o=5\text{mA}\sim 500\text{mA}$ $T_J=25^\circ\text{C}$ | - | - | 100 | mV |
| | | $I_o=5\text{mA}\sim 200\text{mA}$ $T_J=25^\circ\text{C}$ | - | - | 50 | mV |
| Line Regulation | ΔV_O | $V_i=7\text{V}\sim 25\text{V}$ $T_J=25^\circ\text{C}$ | - | - | 100 | mV |
| | | $V_i=8\text{V}\sim 25\text{V}$ $T_J=25^\circ\text{C}$ | - | - | 50 | mV |
| Output Noise Voltage | eN | $B=10\text{Hz}\sim 100\text{KHz}$ $T_J=25^\circ\text{C}$ | - | 40 | - | μV |
| Ripple Rejection | RR | $V_i=8\text{V}\sim 18\text{V}$ $f=120\text{Hz}$ | 62 | - | - | dB |
| Short Circuit Current | Isc | $V_i=35\text{V}$ $T_J=25^\circ\text{C}$ | - | 300 | - | mA |
| Quiescent Current | Iq | $T_J=25^\circ\text{C}$ | - | - | 6 | mA |
| Quiescent Current Change | ΔI_q | $V_i=8\text{V}\sim 25\text{V}$ | - | - | 0.8 | mA |
| | | $I_o=5\text{mA}\sim 350\text{mA}$ | - | - | 0.5 | mA |
| Output Voltage Drift | $\Delta V_O/\Delta T$ | $I_o=5\text{mA}$ | - | -0.5 | - | $\text{mV}/^\circ\text{C}$ |
| Dropout Voltage | V_D | $T_J=25^\circ\text{C}$ | - | 2 | - | V |
| Short Circuit Peak Current | Iscp | $T_J=25^\circ\text{C}$ | - | 700 | - | mA |

Electrical Characteristics Curves

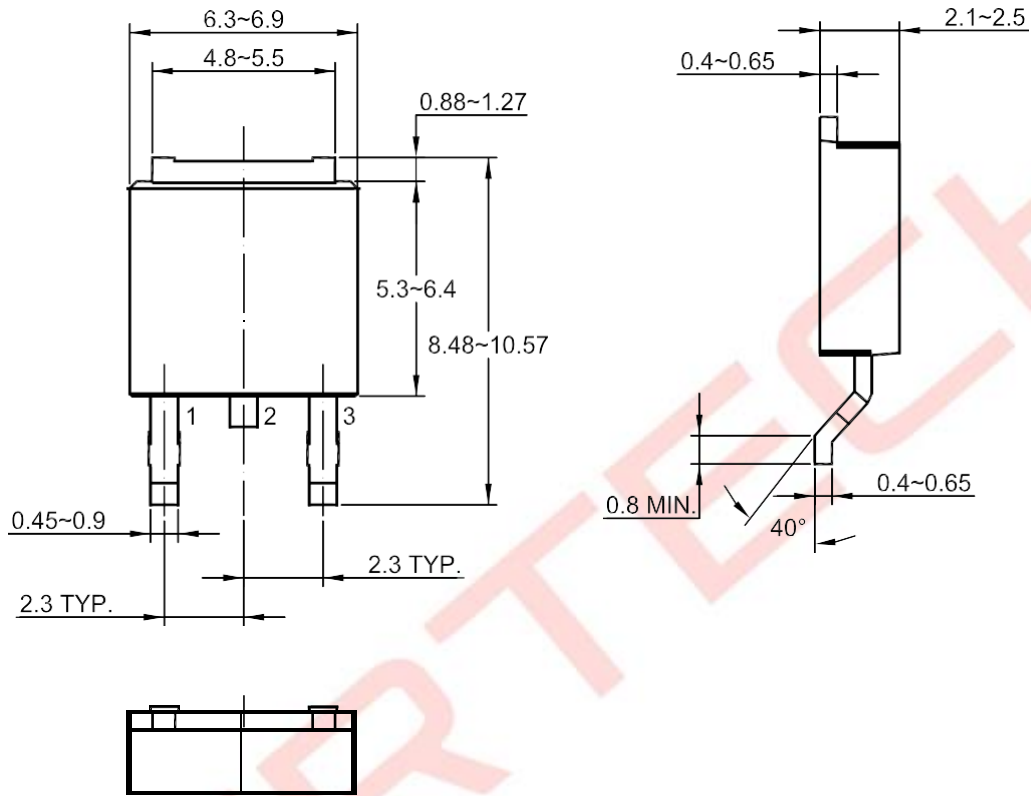


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Package Outline

TO-252

Dimensions in Millimeters



Recommended Soldering Footprint

