



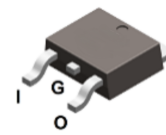
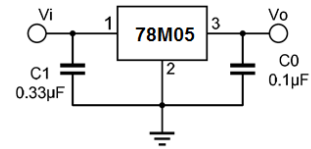
Features

- Output current up to 0.5A
- Thermal overload protection
- Short circuit protection
- Continuous total dissipation

P_D : 1.5 W($T_a=25^\circ\text{C}$)

Mechanical Data

- Case: TO-252
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



TO-252

Ordering Information

| Part Number | Package | Shipping Quantity | Marking Code |
|-------------|---------|---|--------------|
| 78M05 | TO-252 | 80 pcs / Tube or 2500 pcs / Tape & Reel | 78M05 |

Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---------------|--------|-------|------|
| Input Voltage | V_i | 35 | V |

Thermal Characteristics

| Parameter | Symbol | Value | Unit |
|------------------------------------|-----------------|------------|--------------------|
| Thermal Resistance Junction-to-Air | $R_{\theta JA}$ | 92 | $^\circ\text{C/W}$ |
| Operating Temperature Range | T_{OPR} | -25 ~ +125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65 ~ +150 | $^\circ\text{C}$ |

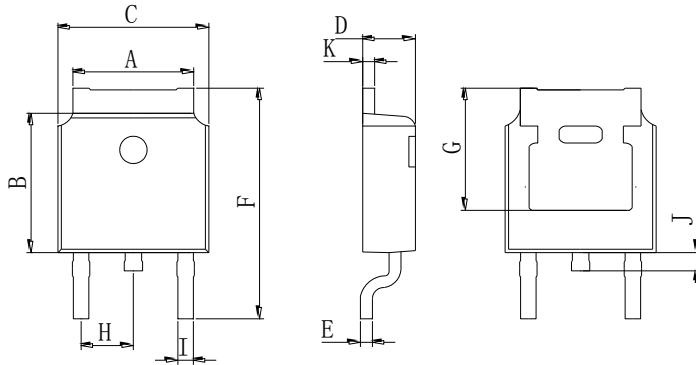


Electrical Characteristics ($I_o = 350\text{mA}$, $V_I = 10\text{V}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$ unless otherwise specified)

| Parameter | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|--------------------------|-------------------------|---|------|------|------|----------------------|
| Output Voltage | V_o | $V_I = 10\text{V}$, $I_o = 350\text{mA}$ | 4.8 | 5.0 | 5.2 | V |
| | | $5\text{mA} \leq I_o \leq 350\text{mA}$ | 4.75 | 5.00 | 5.25 | V |
| | | $7\text{V} \leq V_I \leq 20\text{V}$ | 4.75 | 5.00 | 5.25 | V |
| Line Regulation | ΔV_o | $7\text{V} \leq V_I \leq 25\text{V}$, $I_o = 200\text{mA}$ | - | - | 100 | mV |
| | | $8\text{V} \leq V_I \leq 20\text{V}$, $I_o = 200\text{mA}$ | - | - | 50 | mV |
| Load Regulation | ΔV_o | $5\text{mA} \leq I_o \leq 500\text{mA}$ | - | - | 100 | mV |
| | | $5\text{mA} \leq I_o \leq 200\text{mA}$ | - | - | 50 | mV |
| Quiescent Current | I_q | $V_I = 10\text{V}$, $I_o = 350\text{mA}$ | - | 4 | 6 | mA |
| Quiescent Current Change | ΔI_q | $5\text{mA} \leq I_o \leq 350\text{mA}$ | - | - | 0.5 | mA |
| | | $8\text{V} \leq V_I \leq 25\text{V}$, $I_o = 200\text{mA}$ | - | - | 0.8 | mA |
| Output Voltage Drift | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$, $0 \leq T_J \leq 125^\circ\text{C}$ | - | -0.5 | - | mV/ $^\circ\text{C}$ |
| Output Noise Voltage | V_N | $10\text{Hz} \leq f \leq 100\text{kHz}$, $T_A = 25^\circ\text{C}$ | - | 40 | - | $\mu\text{V}/V_o$ |
| Ripple Rejection | RR | $8\text{V} \leq V_I \leq 18\text{V}$, $f = 120\text{Hz}$ $I_o = 300\text{mA}$ | 62 | - | - | dB |
| Dropout Voltage | V_D | $I_o = 500\text{mA}$, $T_J = 25^\circ\text{C}$ | - | 2 | - | V |
| Peak Current | I_{PK} | $T_J = 25^\circ\text{C}$ | - | 700 | - | mA |
| Short Circuit Current | I_{SC} | $V_I = 35\text{V}$, $T_A = 25^\circ\text{C}$ | - | 300 | - | mA |



Package Outline Dimensions (Unit: mm)



| TO-252 | | |
|-----------|------|-------|
| Dimension | Min. | Max. |
| A | 5.05 | 5.65 |
| B | 5.80 | 6.40 |
| C | 6.25 | 6.85 |
| D | 2.20 | 2.40 |
| E | 0.40 | 0.60 |
| F | 9.71 | 10.31 |
| G | 5.05 | 5.65 |
| H | 2.10 | 2.50 |
| I | 0.70 | 0.90 |
| J | 0.50 | 0.70 |
| K | 0.40 | 0.60 |

Mounting Pad Layout (Unit: mm)

TO-252

