



Micro Commercial Components



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MC78M05CDT

Three-Terminal Positive Voltage Regulators

Features

- Output current in excess of 0.5 Ampere
- Internal thermal overload protection
- Internal short-circuit current limiting
- High power dissipation capability
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

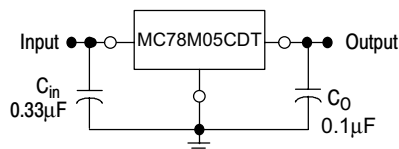
Maximum Ratings @ T_a=25°C, Unless Otherwise Noted

| Parameter | Symbol | Value | Unit |
|--------------------------------|------------------|------------|------|
| Input Voltage | V _i | 35 | V |
| Power Dissipation | P _D | 1.25 | W |
| Operating Junction Temperature | T _{OPR} | 0 ---+125 | °C |
| Storage Temperature Range | T _{STG} | -65---+150 | °C |

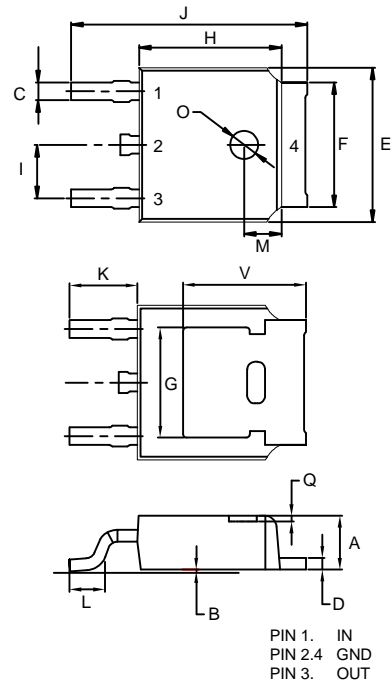
Electrical Characteristics (V_i=10V, I_o=350mA, 0°C<T_j<125°C, C_i=0.33µF, C_o=0.1µF, Unless Otherwise Specified)

| Parameter | Sym | Min | Typ | Max | Test conditions |
|------------------------------|-----------------|-------|-------|-------|--|
| Output Voltage | V _o | 4.8V | 5.0V | 5.2V | T _j =25°C |
| | | 4.75V | 5.0V | 5.25V | 7V ≤ V _i ≤ 20V, 5mA ≤ I _o ≤ 350mA, P _D =15W |
| Load Regulation | ΔV _o | | 15mV | 100mV | 5mA ≤ I _o ≤ 0.5A, T _j =25°C |
| | | | 5.0mV | 50mV | 5mA ≤ I _o ≤ 200mA, T _j =25°C |
| Line regulation | ΔV _o | | 3.0mV | 100mV | 7V ≤ V _i ≤ 25V, I _o =0.2A |
| | | | 1.0mV | 50mV | 8V ≤ V _i ≤ 25V, I _o =0.2A |
| Quiescent Current | I _q | | 4.2mA | 6.0mA | T _j =25°C |
| Quiescent Current Change | ΔI _q | | | 0.8mA | 8V ≤ V _i ≤ 25V, I _o =0.2A |
| | | | | 0.5mA | 5mA ≤ I _o ≤ 350mA |
| Output Noise Voltage | V _N | | 40µV | 200µV | 10Hz ≤ f ≤ 120Hz |
| Ripple Rejection | RR | 62dB | 80dB | | 8V ≤ V _i ≤ 18V f=120Hz, I _o =0.3A T _j =25°C |
| Dropout Voltage | V _d | | 2.0V | 2.5V | I _o =0.35A, T _j =25°C |
| Output Short Circuit Current | I _{sc} | | 300mA | | V _i =10V, T _j =25°C |
| Peak Output Current | I _{pk} | | 0.7A | | T _j =25°C |

TYPICAL APPLICATION



DPAK



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|-------|------|-------|------|
| | INCHES | | MM | | |
| | MIN | MAX | MIN | MAX | |
| A | 0.087 | 0.094 | 2.20 | 2.40 | |
| B | 0.000 | 0.005 | 0.00 | 0.13 | |
| C | 0.026 | 0.034 | 0.66 | 0.86 | |
| D | 0.018 | 0.023 | 0.46 | 0.58 | |
| E | 0.256 | 0.264 | 6.50 | 6.70 | |
| F | 0.201 | 0.215 | 5.10 | 5.46 | |
| G | 0.190 | | 4.83 | | |
| H | 0.236 | 0.244 | 6.00 | 6.20 | |
| I | 0.086 | 0.094 | 2.18 | 2.39 | |
| J | 0.386 | 0.409 | 9.80 | 10.40 | |
| K | 0.114 | | 2.90 | | |
| L | 0.055 | 0.067 | 1.40 | 1.70 | |
| M | 0.063 | | 1.60 | | |
| O | 0.043 | 0.051 | 1.10 | 1.30 | |
| Q | 0.000 | 0.012 | 0.00 | 0.30 | |
| V | 0.211 | | 5.35 | | |

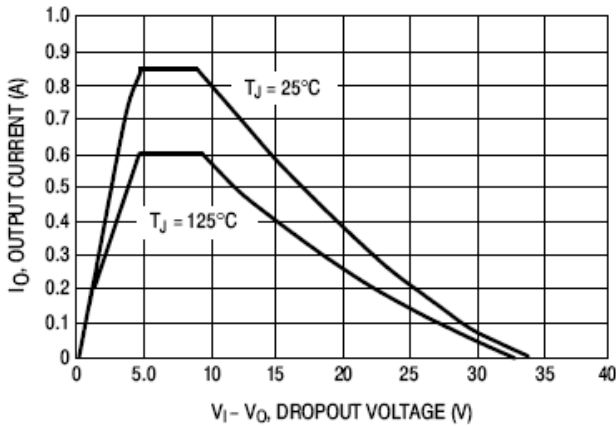


Figure 1. Peak Output Current versus Dropout Voltage

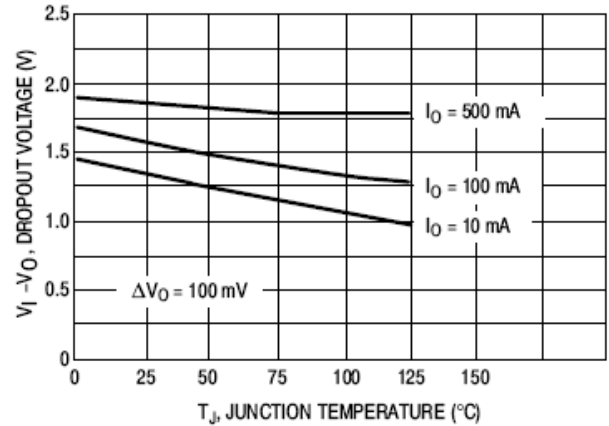


Figure 2. Dropout Voltage versus Junction Temperature

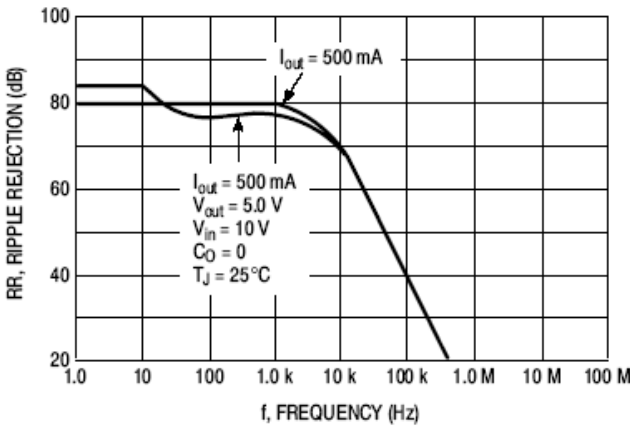


Figure 3. Ripple Rejection versus Frequency

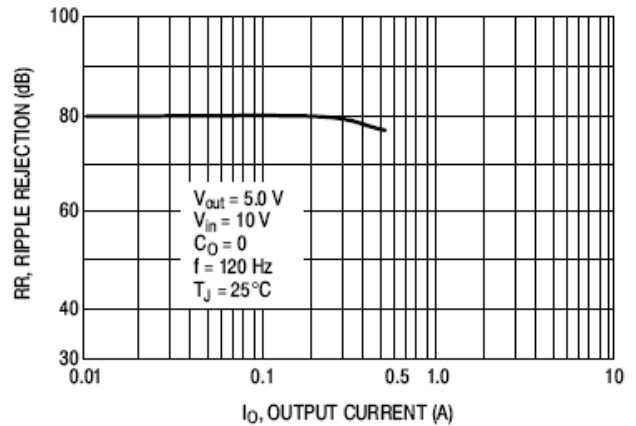


Figure 4. Ripple Rejection versus Output Current

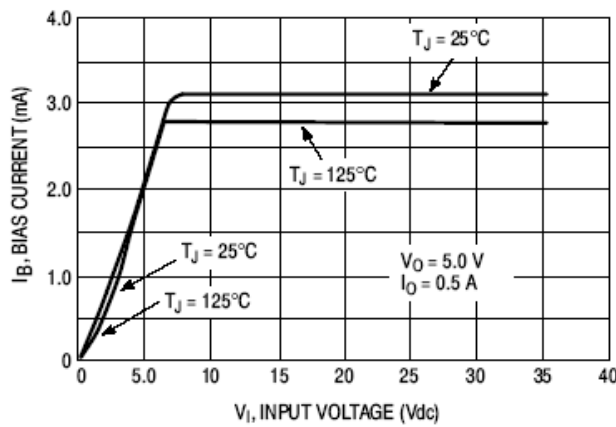


Figure 5. Bias Current versus Input Voltage

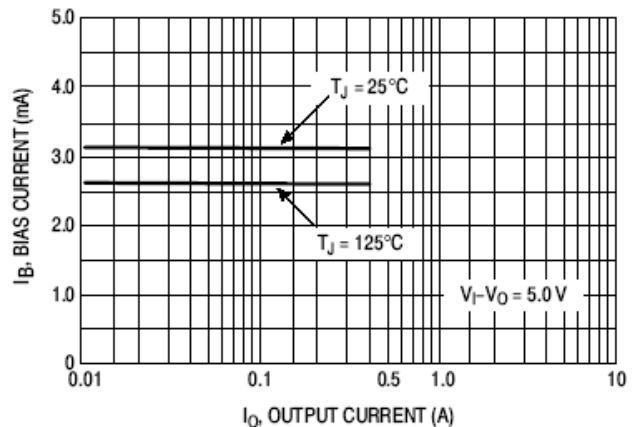


Figure 6. Bias Current versus Output Current



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Ordering Information :

| Device | Packing |
|----------------|-------------------------|
| Part Number-TP | Tape&Reel: 2.5Kpcs/Reel |

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