



Micro Commercial Components
 20736 Marilla Street Chatsworth
 CA 91311
 Phone: (818) 701-4933
 Fax: (818) 701-4939

MC7805

Three-Terminal Positive Voltage Regulators

Features

- Output current in excess of 1.0 Ampere
- No external components required
- Internal thermal overload protection
- Internal short-circuit current limiting
- Output voltage offered in 2% tolerance

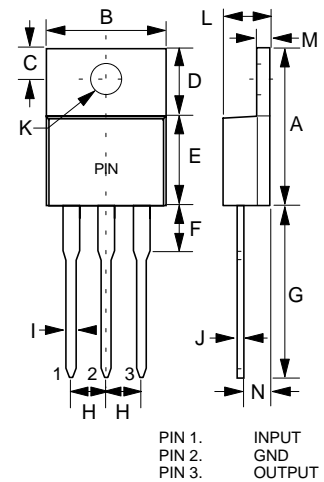
Maximum Ratings @ T_A=25°C, Unless Otherwise Noted

| Parameter | Symbol | Value | Unit |
|--------------------------------|------------------|-------------|------|
| Input Voltage | V _I | 30 | V |
| Operating Ambient Temperature | P _D | 15 | W |
| Operating Junction Temperature | T _{OPR} | -20----+75 | °C |
| Storage Temperature Range | T _{STG} | -55----+125 | °C |

Electrical Characteristics (V_I=10V, I_O=500mA, 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 | 4.9V | 5.0V | 5.1V | T _J =25°C |
| | | 4.85V | | 5.15V | 7V ≤ V _I ≤ 20V, 5mA ≤ I _O ≤ 1.0A, P _D =15W |
| Load Regulation | ΔV _O | | 15mV | 100mV | 5mA ≤ I _O ≤ 1.5A, T _J =25°C, |
| | | | 5.0mV | 50mV | 250mA ≤ I _O ≤ 750mA, T _J =25°C |
| Line regulation | ΔV _O | | 3.0mV 1.0mV | 100mV | 7V ≤ V _I ≤ 25V, T _J =25°C 8V ≤ V _I ≤ 12V, T _J =25°C |
| Quiescent Current | I _q | | 4.2mA | 8.0mA | T _J =25°C, I _O =0 |
| Quiescent Current Change | ΔI _q | | | 1.3mA 0.5mA | 7V ≤ V _I ≤ 25V 5mA ≤ I _O ≤ 1.0A |
| Output Noise Voltage | V _N | | 40µV | | f=120Hz |
| Ripple Rejection | RR | 62dB | 78dB | | 8V ≤ V _I ≤ 20V f=120Hz, T _J =25°C |
| Dropout Voltage | V _d | | 2.0V | | I _O =1.0A, T _J =25°C |
| Output Short Circuit Current | R _O | | 17mohm | | f=1.0KHz |
| Output Short Circuit Current | I _{OS} | | 750mA | | T _J =25°C |
| Peak Output Current | I _{Opeak} | | 2.2A | | T _J =25°C |
| Temperature Coefficient of Output voltage | ΔV _O / ΔT _J | | 1.1mV/°C | | 0°C ≤ T _J ≤ 125°C, I _O =5mA |

TO-220



DIMENSIONS

| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|-------|-------|------|
| | MIN | MAX | MIN | MAX | |
| A | .560 | .625 | 14.22 | 15.88 | |
| B | .380 | .420 | 9.65 | 10.67 | |
| C | .100 | .135 | 2.54 | 3.43 | |
| D | .230 | .270 | 5.84 | 6.86 | |
| E | .380 | .420 | 9.65 | 10.67 | |
| F | ----- | .250 | ----- | 6.35 | |
| G | .500 | .580 | 12.70 | 14.73 | |
| H | .090 | .110 | 2.29 | 2.79 | |
| I | .020 | .045 | 0.51 | 1.14 | |
| J | .012 | .025 | 0.30 | 0.64 | |
| K | .139 | .161 | 3.53 | 4.09 | ∅ |
| L | .140 | .190 | 3.56 | 4.83 | |
| M | .045 | .055 | 1.14 | 1.40 | |
| N | .080 | .115 | 2.03 | 2.92 | |

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Representation Schematic Diagram

