

7805 • THREE-TERMINAL POSITIVE VOLTAGE REGULATOR IC

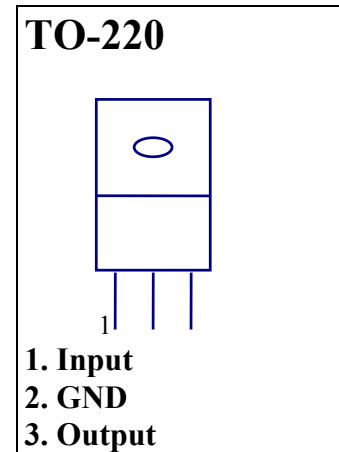
FEATURES:

- OUTPUT CURRENT IN EXCESS OF 1A;
- NO EXTERNAL COMPONENTS REQUIRED;
- INTERNAL SHORT CIRCUIT CURRENT LIMITING;
- INTERNAL THERMAL OVERLOAD PROTECTION;
- OUTPUT TRANSISTOR SAFE-AREA COMPENSATION;
- OUTPUT VOLTAGE OFFERED IN 4% TOLERANCE.

ABSOLUTE MAXIMUM RATINGS (Ta= 25° C)

| Characteristic | Symbol | Norm | Unit |
|---|-----------------------|------|------|
| Input Voltage | V _{in} | V | 35 |
| Maximum Dissipated Power(with heat sink) | P _{tot(max)} | W | 15 |
| Maximum Dissipated Power(without heat sink) | P _{tot(max)} | W | 1.5 |
| Thermal Resistance Junction to Case | O _{jC} | °C/W | 5.0 |
| Thermal Resistance, Junction to Air | O _{jA} | °C/W | 65 |
| Junction Temperature | T _j | 150 | °C |

T_c = -45 ÷ +70°C



ELECTRICAL CHARACTERISTICS

(V_{in}=10V, I_o=0.5A, C_i=0.33mkF, C_o=0.1mkF, T_j=0+125°C, unless otherwise noted.)

| Characteristic | Symbol | Norm | | | Unit |
|---|---------------------------------|------|-----|------------|-------|
| | | Min | TYP | Max | |
| Output Voltage(T _j =25°C) | V _o | 4.8 | | 5.2 | V |
| Output Voltage (5.0mA ≤ I _o ≤ 1.0A, P _o ≤ 15W) 7.0V ≤ V _{in} ≤ 20V | V _o | 4.75 | | 5.25 | V |
| Line Regulation(T _j =+25°C) 7.0V ≤ V _{in} ≤ 25 V 8.0 V ≤ V _{in} ≤ 12 V | ΔV _v | | | 100 50 | mV |
| Load Regulation(T _j =+25°C) 5.0mA ≤ I _o ≤ 1.5A 0.25A ≤ I _o ≤ 0.75A | ΔV _i | | | 100 50 | mV |
| Quiescent Current(T _j =+25°C) | I _b | | | 8.0 | mA |
| Quiescent Current Change 7.0 V ≤ V _{in} ≤ 25 V 5.0mA ≤ I _o ≤ 1.0 A | ΔI _b | | | 1.3 0.5 | mA |
| Dropout Voltage(I _o =1.0A, T _j =+25°C) | V _i - V _o | | 2.0 | | V |
| Short Circuit Current Limit(T _a =+25°C), V _{in} =35V | I _{sc} | | 0.4 | | A |
| Peak Output Current(T _j =+25°C) | I _{max} | | 2.2 | | A |
| Average Temperature Coefficient of Output Voltage | TCV _o | | 0.3 | | mV/°C |