



TO-220 Plastic-Encapsulate Voltage Regulator

CJ7806 Three-terminal positive voltage regulator

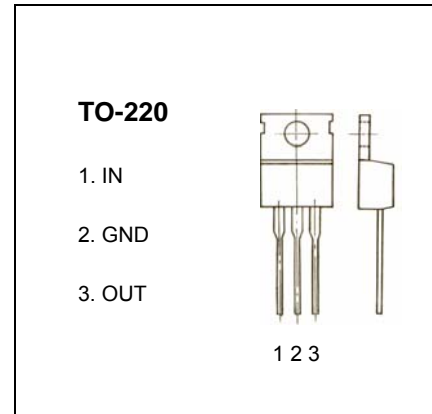
FEATURES

Maximum Output current I_{OM} : 1.5 A

Output voltage V_o : 6 V

Continuous total dissipation

P_D : 2 W ($T_J=25^\circ\text{C}$)



ABSOLUTE MAXIMUM RATINGS(operating temperature range applies unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|--------------------------------------|-----------------|---------|---------------------------|
| Input Voltage | V_i | 35 | V |
| Thermal resistance junction-air | $R_{\theta JA}$ | 65 | $^\circ\text{C}/\text{W}$ |
| Thermal resistance junction-cases | $R_{\theta JC}$ | 5 | $^\circ\text{C}/\text{W}$ |
| Operating Junction Temperature Range | T_{OPR} | 0-150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65-150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS($V_i=11\text{V}, I_o=500\text{mA}, 0^\circ\text{C}<T_J<125^\circ\text{C}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------|-----------------------|--|------|------|------|----------------------------|
| Output voltage | V_o | $T_J=25^\circ\text{C}$ | 5.75 | 6 | 6.25 | V |
| | | $8\text{V}\leq V_i\leq 21\text{V}, I_o=5\text{mA}-1\text{A}, P\leq 15\text{W}$ | 5.7 | 6 | 6.3 | V |
| Load Regulation | ΔV_o | $T_J=25^\circ\text{C}, I_o=5\text{mA}-1.5\text{A}$ | | 14 | 120 | mV |
| | | $T_J=25^\circ\text{C}, I_o=250\text{mA}-750\text{mA}$ | | 4 | 60 | mV |
| Line regulation | ΔV_o | $8\text{V}\leq V_i\leq 25\text{V}, T_J=25^\circ\text{C}$ | | 5 | 120 | mV |
| | | $9\text{V}\leq V_i\leq 13\text{V}, T_J=25^\circ\text{C}$ | | 1.5 | 60 | mV |
| Quiescent Current | I_q | $T_J=25^\circ\text{C}$ | | 4.3 | 8 | mA |
| Quiescent Current Change | ΔI_q | $8\text{V}\leq V_i\leq 25\text{V}$ | | | 1.3 | mA |
| | | $5\text{mA}\leq I_o\leq 1\text{A}$ | | | 0.5 | mA |
| Output voltage drift | $\Delta V_o/\Delta T$ | $I_o=5\text{mA}$ | | -0.8 | | $\text{mV}/^\circ\text{C}$ |
| Output Noise Voltage | V_N | $10\text{Hz}\leq f\leq 100\text{KHz}$ | | 45 | | μV |
| Ripple Rejection | RR | $9\text{V}\leq V_i\leq 19\text{V}, f=120\text{Hz}, T_J=0-125^\circ\text{C}$ | 59 | 75 | | dB |
| Dropout Voltage | V_d | $T_J=25^\circ\text{C}, I_o=1\text{A}$ | | 2 | | V |
| Output resistance | R_o | $f=1\text{KHz}$ | | 19 | | $\text{m}\Omega$ |
| Short Circuit Current | I_{sc} | $V_i=35\text{V}, T_J=25^\circ\text{C}$ | | 550 | | mA |
| Peak Current | I_{pk} | $T_J=25^\circ\text{C}$ | | 2.2 | | A |

TYPICAL APPLICATION

