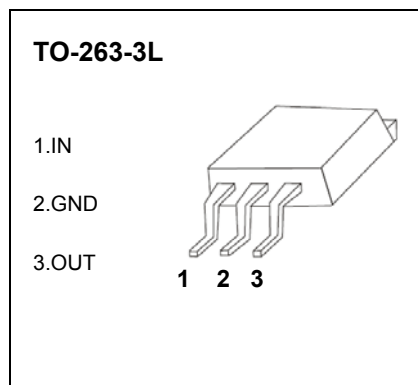


TO-263-3L Plastic-Encapsulate Voltage Regulators

CJ7812 Three-terminal positive voltage regulator

FEATURES

- Maximum Output current I_{OM} : 1.5 A**
- Output voltage V_o : 12 V**
- Continuous total dissipation**
 - P_D : 1.5 W ($T_a = 25^\circ\text{C}$)
 - 15 W ($T_c = 25^\circ\text{C}$)



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

| Parameter | Symbol | Value | Unit |
|--|-----------------|---------|--------------------|
| Input Voltage | V_i | 35 | V |
| Thermal Resistance from Junction to Air | $R_{\theta JA}$ | 44 | $^\circ\text{C/W}$ |
| Thermal Resistance from Junction to Case | $R_{\theta JC}$ | 1 | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range | T_{OPR} | 0-150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65-150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=19V, I_o=500mA, C_i=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------|-------------------------|--|------------------------|------|------|----------------------|
| Output Voltage | V_o | 25°C | 11.5 | 12.0 | 12.5 | V |
| | | $I_o = 5.0\text{mA} - 1.0\text{A}, P \leq 15\text{W}$ $14.5\text{V} \leq V_i \leq 27\text{V}$ | 0-125 $^\circ\text{C}$ | 11.4 | 12 | 12.6 |
| Load Regulation | ΔV_o | $14.5\text{V} \leq V_i \leq 30\text{V}$ | 25 $^\circ\text{C}$ | 10 | 240 | mV |
| | | $16\text{V} \leq V_i \leq 22\text{V}$ | 25 $^\circ\text{C}$ | 3 | 120 | mV |
| Line Regulation | ΔV_o | $I_o = 5\text{mA} - 1.5\text{A}$ | 25 $^\circ\text{C}$ | 12 | 240 | mV |
| | | $I_o = 250\text{mA} - 750\text{mA}$ | 25 $^\circ\text{C}$ | 4 | 120 | mV |
| Quiescent Current | I_q | | 25 $^\circ\text{C}$ | 4.3 | 8 | mA |
| Quiescent Current Change | ΔI_q | $5.0\text{mA} \leq I_o \leq 1.0\text{A}$ | 0-125 $^\circ\text{C}$ | | 0.5 | mA |
| | | $14.5\text{V} \leq V_i \leq 30\text{V}$ | 0-125 $^\circ\text{C}$ | | 1.0 | mA |
| Output Voltage Drift | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$ | 0-125 $^\circ\text{C}$ | -1 | | mV/ $^\circ\text{C}$ |
| Output Noise Voltage | V_N | $f = 10\text{Hz to } 100\text{KHz}$ | 25 $^\circ\text{C}$ | 75 | | μV |
| Ripple Rejection | RR | $f = 120\text{Hz}, 15\text{V} \leq V_i \leq 25\text{V}$ | 0-125 $^\circ\text{C}$ | 55 | 71 | dB |
| Dropout Voltage | V_d | $I_o = 1.0\text{A}$ | 25 $^\circ\text{C}$ | 2 | | V |
| Output Resistance | R_o | $f = 1\text{KHz}$ | 25 $^\circ\text{C}$ | 18 | | m Ω |
| Short Circuit Current | I_{sc} | | 25 $^\circ\text{C}$ | 350 | | mA |
| Peak Current | I_{pk} | | 25 $^\circ\text{C}$ | 2.2 | | A |

TYPICAL APPLICATION

