



3-Terminal 1A Positive Voltage Regulator

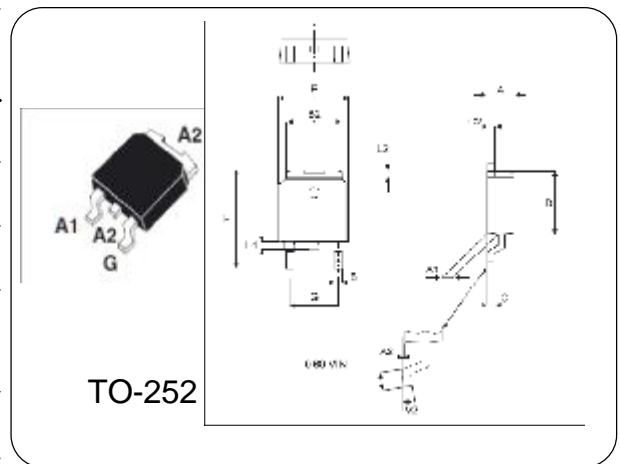
LM7812J

GENERAL DESCRIPTION

The LM7812 series of three terminal positive regulators are available in the TO-220 package and with several fixed output voltages, making them useful in a wide range of applications. Each type employs internal current limiting, thermal shut down and safe operating area protection, making it essentially indestructible. If adequate heat sinking is provided, they can deliver over 1A output current. Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltages and currents.

ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

| Parameter | Symbol | Typ | Unit |
|-----------------------------|-----------|---------|------|
| Input Voltage | V_I | 35 | V |
| Output Voltage | V_O | 12.0 | V |
| Peak Current | I_{PK} | 2.2 | A |
| Operating Temperature Range | T_{OPR} | 0~125 | °C |
| Storage Temperature Rang | T_{STG} | -65~150 | °C |



ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

(Refer to test circuit, $I_o = 500mA$, $V_i = 19V$, $C_i = 0.33\mu F$, $C_o = 0.1\mu F$ unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|-------------------------|------------|-------------------------------------|-------|-------|-------|----------|
| Output Voltage | V_O | $V_I = 14.5V$ to $30V$ | 11.64 | 12.0 | 12.36 | V |
| Line Regulation (Note1) | Regline | $V_I = 14.5V$ to $30V$ | — | 10 | 240 | mV |
| | | $V_I = 16V$ to $22V$ | — | 3.0 | 120 | |
| Load Regulation (Note1) | Regload | $I_o = 5.0mA$ to $1.5A$ | — | 11 | 240 | mV |
| | | $I_o = 250mA$ to $750mA$ | — | 5 | 120 | |
| Quiescent Current | I_Q | $T_J = +25\text{ °C}$ | — | 5.1 | 8 | mA |
| Ripple Rejection | RR | $f = 120Hz$, $V_O = 15V$ to $30V$ | 56 | 73 | — | dB |
| Dropout Voltage | V_{Drop} | $I_o = 1A$, $T_J = +25\text{ °C}$ | — | 2 | — | V |
| Output Resistance | r_o | $f = 1KHz$ | — | 0.018 | — | Ω |
| Short Circuit Current | I_{SC} | $V_I = 35V$, $T_A = +25\text{ °C}$ | — | 230 | — | mA |
| Peak Current | I_{PK} | $T_J = +25\text{ °C}$ | — | 2.2 | — | A |