

**TO-251/TO-252-2L Plastic-Encapsulate Transistors****CJ78M06** Three-terminal positive voltage regulator**FEATURES**

Maximum Output current

$I_{OM}: 0.5\text{ A}$

Output voltage

$V_o: 6\text{ V}$

TO-251
TO-252-2L

1.IN

2.GND

3.OUT

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

| Parameter | Symbol | Value | Unit |
|--------------------------------------|-----------|----------|------|
| Input Voltage | V_i | 35 | V |
| Operating Junction Temperature Range | T_{OPR} | 0-+125 | °C |
| Storage Temperature Range | T_{STG} | -65-+150 | °C |

ELECTRICAL CHARACTERISTICS($V_i=11\text{V}$, $I_o=350\text{mA}$, $0^\circ\text{C}<T_j<125^\circ\text{C}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, 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 |
| | | $8\leq V_i\leq 21\text{V}$, $I_o=5\text{mA}-350\text{mA}$ $P_o\leq 15\text{W}$ | 5.7 | 6 | 6.3 | V |
| Load Regulation | ΔV_o | $T_j=25^\circ\text{C}$, $I_o=5\text{mA}-0.5\text{A}$ | | 18 | 120 | mV |
| | | $T_j=25^\circ\text{C}$, $I_o=5\text{mA}-200\text{mA}$ | | 10 | 60 | mV |
| Line regulation | ΔV_o | $8\text{V}\leq V_i\leq 25\text{V}$, $I_o=200\text{mA}$ | | 5 | 100 | mV |
| | | $9\text{V}\leq V_i\leq 25\text{V}$, $I_o=200\text{mA}$ | | 1.5 | 50 | mV |
| Quiescent Current | I_q | $T_j=25^\circ\text{C}$ | | 4.3 | 6 | mA |
| Quiescent Current Change | ΔI_q | $9\text{V}\leq V_i\leq 25\text{V}$, $I_o=200\text{mA}$ | | | 0.8 | mA |
| | ΔI_q | $5\text{mA}\leq I_o\leq 350\text{mA}$ | | | 0.5 | mA |
| Output Noise Voltage | V_N | $10\text{Hz}\leq f\leq 100\text{kHz}$ | | 45 | | μV |
| Ripple Rejection | RR | $9\text{V}\leq V_i\leq 19\text{V}$, $f=120\text{Hz}$, $I_o=300\text{mA}$ $T_j=25^\circ\text{C}$ | 59 | 80 | | dB |
| Dropout Voltage | V_d | $T_j=25^\circ\text{C}$, $I_o=350\text{mA}$ | | 2 | | V |
| Short Circuit Current | I_{sc} | $V_i=11\text{V}$, $T_a=25^\circ\text{C}$ | | 270 | | mA |
| Peak Current | I_{pk} | $T_j=25^\circ\text{C}$ | | 0.7 | | A |

TYPICAL APPLICATION