



**TO-251/TO-252-2L Plastic-Encapsulate Transistors**

**CJ78M06** Three-terminal positive voltage regulator

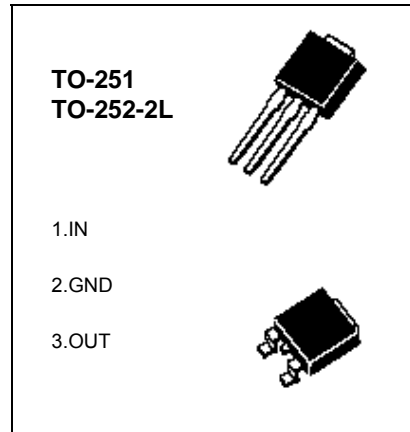
**FEATURES**

Maximum Output current

$I_{OM}$ : 0.5 A

Output voltage

$V_o$ : 6V



**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**( $V_i=11V, I_o=350mA, 0^\circ C < T_j < 125^\circ C, C_i=0.33\mu F, C_o=0.1\mu F$ , unless otherwise specified )

| Parameter                | Symbol       | Test conditions  | MIN  | TYP | MAX  | UNIT    |
|--------------------------|--------------|--|------|-----|------|---------|
| Output voltage           | $V_o$        | $T_j=25^\circ C$   | 5.75 | 6   | 6.25 | V       |
|                          |              | $8V \leq V_i \leq 21V, I_o=5mA-350mA, P_o \leq 15W$        | 5.7  | 6   | 6.3  | V       |
| Load Regulation          | $\Delta V_o$ | $T_j=25^\circ C, I_o=5mA-0.5A$                             |      | 18  | 120  | mV      |
|                          |              | $T_j=25^\circ C, I_o=5mA-200mA$                            |      | 10  | 60   | mV      |
| Line regulation          | $\Delta V_o$ | $8V \leq V_i \leq 25V, I_o=200mA$                          |      | 5   | 100  | mV      |
|                          |              | $9V \leq V_i \leq 25V, I_o=200mA$                          |      | 1.5 | 50   | mV      |
| Quiescent Current        | $I_q$        | $T_j=25^\circ C$   |      | 4.3 | 6    | mA      |
| Quiescent Current Change | $\Delta I_q$ | $9V \leq V_i \leq 25V, I_o=200mA$                          |      |     | 0.8  | mA      |
|                          | $\Delta I_q$ | $5mA \leq I_o \leq 350mA$                                  |      |     | 0.5  | mA      |
| Output Noise Voltage     | $V_N$        | $10Hz \leq f \leq 100KHz$                                  |      | 45  |      | $\mu V$ |
| Ripple Rejection         | RR           | $9V \leq V_i \leq 19V, f=120Hz, I_o=300mA, T_j=25^\circ C$ | 59   | 80  |      | dB      |
| Dropout Voltage          | $V_d$        | $T_j=25^\circ C, I_o=350mA$                                |      | 2   |      | V       |
| Short Circuit Current    | $I_{sc}$     | $V_i=11V, T_a=25^\circ C$                                  |      | 270 |      | mA      |
| Peak Current             | $I_{pk}$     | $T_j=25^\circ C$   |      | 0.7 |      | A       |

**TYPICAL APPLICATION**

