

### THREE-TERMINAL POSITIVE VOLTAGE REGULATOR

## FEATURES

Maximum output current

 $I_{OM} : 1.5A$ 

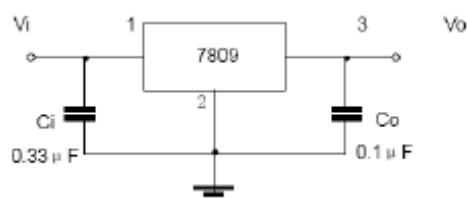
Output voltage

 $V_O : 9 \text{ V}$ 

### Continuous total dissipation

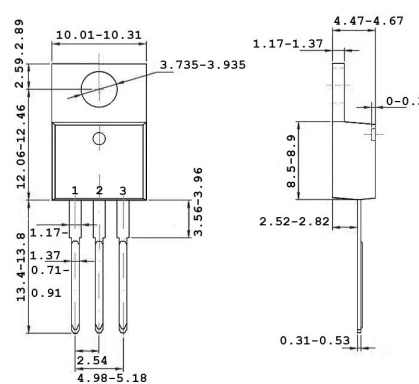
$$P_D : 2W (T_J=25^{\circ}\text{C})$$

## TYPICAL APPLICATION



# TO-220

1. IN
2. GND
3. OUT



UNIT:mm

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

| Parameters                           | Symbols          | Value    | UNITS |
|--------------------------------------|------------------|----------|-------|
| Input Voltage                        | V <sub>I</sub>   | 35       | V     |
| Thermal Resistance Junction - Air    | R <sub>θJA</sub> | 65       | °C/W  |
| Thermal Resistance Junction - Cases  | R <sub>θJC</sub> | 5        | °C/W  |
| Operating Junction Temperature Range | T <sub>OPR</sub> | 0~+150   | °C    |
| Storage Temperature Range            | T <sub>STG</sub> | -65~+150 | °C    |

## ELECTRICAL CHARACTERISTICS

(Vi=16V, Io=500mA, 0°C&lt;Tj&lt;125°C, Ci=0.33μF, Co=0.1μF, unless otherwise specified)

| Parameters               | Symbol              | Test conditions                                            | MIN  | TYP | MAX  | UNIT |
|--------------------------|---------------------|------------------------------------------------------------|------|-----|------|------|
| Output Voltage           | V <sub>O</sub>      | T <sub>J</sub> =25℃                                        | 8.65 | 9   | 9.35 | V    |
|                          |                     | 11.5V≤V <sub>i</sub> ≤24V, I <sub>o</sub> =5mA-1A<br>P≤15W | 8.55 | 9   | 9.45 | V    |
| Load Regulation          | ΔV <sub>O</sub>     | T <sub>J</sub> =25℃, I <sub>o</sub> =5mA-1.5A              |      | 12  | 180  | mV   |
|                          |                     | T <sub>J</sub> =25℃, I <sub>o</sub> =250mA-750mA           |      | 4   | 90   | mV   |
| Line Regulation          | ΔV <sub>O</sub>     | 11.5V≤V <sub>i</sub> ≤27V, T <sub>J</sub> =25℃             |      | 7   | 180  | mV   |
|                          |                     | 13V≤V <sub>i</sub> ≤19V, T <sub>J</sub> =25℃               |      | 2   | 90   | mV   |
| Quiescent Current        | I <sub>q</sub>      | T <sub>J</sub> =25℃                                        |      | 4.3 | 8    | mA   |
| Quiescent Current Change | Δ I <sub>q</sub>    | 11.5V≤V <sub>i</sub> ≤27V                                  |      |     | 1    | mA   |
|                          |                     | 5mA≤I <sub>o</sub> ≤1A                                     |      |     | 0.5  | mA   |
| Output Voltage Drift     | ΔV <sub>O</sub> /ΔT | I <sub>o</sub> =5mA                                        |      | -1  |      | mV/℃ |
| Output Noise Voltage     | V <sub>N</sub>      | 10Hz≤f≤100KHz                                              |      | 60  |      | μV   |
| Ripple Rejection         | RR                  | 12V≤V <sub>i</sub> ≤22V, f=120Hz, T <sub>J</sub> =25℃      | 55   | 70  |      | dB   |
| Dropout Voltage          | V <sub>d</sub>      | T <sub>J</sub> =25℃, I <sub>o</sub> =1A                    |      | 2   |      | V    |
| Output Resistance        | R <sub>o</sub>      | f=1KHz                                                     |      | 18  |      | mΩ   |
| Short Circuit Current    | I <sub>sc</sub>     | T <sub>J</sub> =25℃                                        |      | 400 |      | mA   |
| Peak Current             | I <sub>pk</sub>     | T <sub>J</sub> =25℃                                        |      | 2.2 |      | A    |