

## TO-92 Three-terminal positive voltage regulator

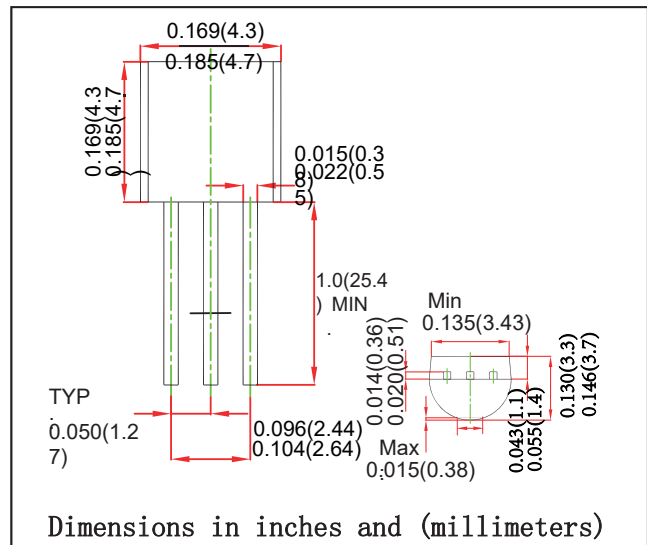
### FEATURES

- Maximum output current  $I_{OM}$ : 0.1A
- Output voltage  $V_O$ : 6V
- Continuous total dissipation

$$P_D: 0.625 \text{ W} \quad T_A=25^\circ\text{C}$$

### MECHANICAL DATA

- Case: TO-92 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

| Parameter                                   | Symbol          | Value    | Unit |
|---------------------------------------------|-----------------|----------|------|
| Input Voltage                               | $V_i$           | 30       | V    |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 160      | °C/W |
| Operating Junction Temperature Range        | $T_{OPR}$       | -25~+125 | °C   |
| Storage Temperature Range                   | $T_{STG}$       | -65~+150 | °C   |

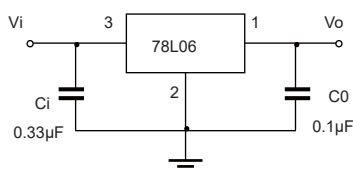
## ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

( $V_i=10\text{V}$ ,  $I_o=40\text{mA}$ ,  $C_i=0.33\mu\text{F}$ ,  $C_o=0.1\mu\text{F}$ , unless otherwise specified )

| Parameter                | Symbol       | Test conditions                                            | Min  | Typ | Max  | Unit      |
|--------------------------|--------------|------------------------------------------------------------|------|-----|------|-----------|
| Output voltage           | $V_o$        | 25°C                                                       | 5.75 | 6.0 | 6.25 | V         |
|                          |              | 8V ≤ $V_i$ ≤ 20V, $I_o=1\text{mA}-40\text{mA}$             | 5.7  | 6.0 | 6.3  | V         |
|                          |              | $\bar{O}-125^\circ\text{C}$ , $I_o=1\text{mA}-70\text{mA}$ | 5.7  | 6.0 | 6.3  | V         |
| Load Regulation          | $\Delta V_o$ | $I_o=1\text{mA}-100\text{mA}$ , 25°C                       |      | 16  | 80   | mV        |
|                          |              | $I_o=1\text{mA}-40\text{mA}$ , 25°C                        |      | 9   | 40   | mV        |
| Line regulation          | $\Delta V_o$ | 8V ≤ $V_i$ ≤ 20V, 25°C                                     |      | 35  | 175  | mV        |
|                          |              | 9V ≤ $V_i$ ≤ 20V, 25°C                                     |      | 29  | 125  | mV        |
| Quiescent Current        | $I_q$        | 25°C                                                       |      | 3.9 | 6.0  | mA        |
| Quiescent Current Change | $\Delta I_q$ | 9V ≤ $V_i$ ≤ 20V, $\bar{O}-125^\circ\text{C}$              |      |     | 1.5  | mA        |
|                          | $\Delta I_q$ | 1mA ≤ $I_o$ ≤ 40mA, $\bar{O}-125^\circ\text{C}$            |      |     | 0.1  | mA        |
| Output Noise Voltage     | $V_N$        | 10Hz ≤ f ≤ 100KHz, 25°C                                    |      | 46  |      | 8V/ $V_o$ |
| Ripple Rejection         | RR           | 9V ≤ $V_i$ ≤ 19V, f=120Hz, $\bar{O}-125^\circ\text{C}$     | 40   | 4   |      | dB        |
| Dropout Voltage          | $V_d$        | 25°C                                                       |      | 1.7 |      | V         |

\* Pulse test.

## TYPICAL APPLICATION



## RATINGS AND CHARACTERISTIC CURVES

### Typical Characteristics

