

## THREE-TERMINAL POSITIVE VOLTAGE REGULATOR

### FEATURES

Maximum output current

$$I_{OM} : 1.5A$$

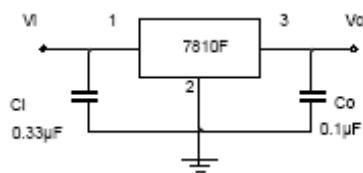
Output voltage

$$V_O : 10 V$$

Continuous total dissipation

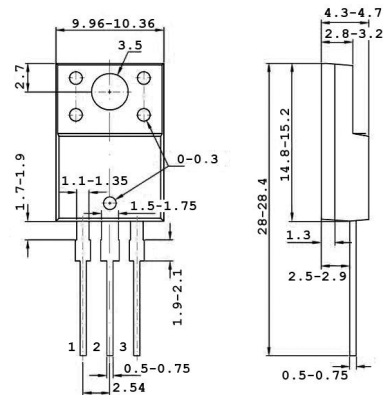
$$P_D : 2W (T_J=25^{\circ}C)$$

### TYPICAL APPLICATION



### TO-220F

1. IN
2. GND
3. OUT



UNIT:mm

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

| Parameters                           | Symbols         | Value    | UNITS         |
|--------------------------------------|-----------------|----------|---------------|
| Input Voltage                        | $V_I$           | 35       | V             |
| Thermal Resistance Junction - Air    | $R_{\theta JA}$ | 65       | $^{\circ}C/W$ |
| Thermal Resistance Junction - Cases  | $R_{\theta JC}$ | 5        | $^{\circ}C/W$ |
| Operating Junction Temperature Range | $T_{OPR}$       | 0~+150   | $^{\circ}C$   |
| Storage Temperature Range            | $T_{STG}$       | -65~+150 | $^{\circ}C$   |

### ELECTRICAL CHARACTERISTICS

( $V_I=17V$ ,  $I_O=500mA$ ,  $0^{\circ}C<T_J<125^{\circ}C$ ,  $C_I=0.33\mu F$ ,  $C_O=0.1\mu F$ , unless otherwise specified)

| Parameters               | Symbol                  | Test conditions                                         | MIN | TYP | MAX  | UNIT            |
|--------------------------|-------------------------|---------------------------------------------------------|-----|-----|------|-----------------|
| Output Voltage           | $V_O$                   | $T_J=25^{\circ}C$                                       | 9.6 | 10  | 10.4 | V               |
|                          |                         | $12.5V \leq V_I \leq 25V$ , $I_O=5mA-1A$ , $P \leq 15W$ | 9.5 | 10  | 10.5 | V               |
| Load Regulation          | $\Delta V_O$            | $T_J=25^{\circ}C$ , $I_O=5mA-1.5A$                      |     | 12  | 200  | mV              |
|                          |                         | $T_J=25^{\circ}C$ , $I_O=250mA-750mA$                   |     | 4   | 100  | mV              |
| Line Regulation          | $\Delta V_O$            | $12.5V \leq V_I \leq 28V$ , $T_J=25^{\circ}C$           |     | 7   | 200  | mV              |
|                          |                         | $14V \leq V_I \leq 20V$ , $T_J=25^{\circ}C$             |     | 2   | 100  | mV              |
| Quiescent Current        | $I_q$                   | $T_J=25^{\circ}C$                                       |     | 4.3 | 8    | mA              |
| Quiescent Current Change | $\Delta I_q$            | $12.5V \leq V_I \leq 28V$                               |     |     | 1    | mA              |
|                          | $\Delta I_q$            | $5mA \leq I_O \leq 1A$                                  |     |     | 0.5  | mA              |
| Output Voltage Drift     | $\Delta V_O / \Delta T$ | $I_O=5mA$                                               |     | -1  |      | mV/ $^{\circ}C$ |
| Output Noise Voltage     | $V_N$                   | $10Hz \leq f \leq 100KHz$                               |     | 70  |      | $\mu V$         |
| Ripple Rejection         | RR                      | $13V \leq V_I \leq 23V$ , $f=120Hz$ , $T_J=25^{\circ}C$ | 55  | 71  |      | dB              |
| Dropout Voltage          | $V_d$                   | $T_J=25^{\circ}C$ , $I_O=1A$                            |     | 2   |      | V               |
| Output Resistance        | $R_O$                   | $f=1KHz$                                                |     | 18  |      | m $\Omega$      |
| Short Circuit Current    | $I_{SC}$                | $T_J=25^{\circ}C$                                       |     | 400 |      | mA              |
| Peak Current             | $I_{pk}$                | $T_J=25^{\circ}C$                                       |     | 2.2 |      | A               |