



Features

- Maximum output current I_{om} : 1A
- Output voltage V_O : 10 V
- Continuous total dissipation P_D : 1.5W ($T_a = 25^\circ\text{C}$)



Absolute Maximum Ratings

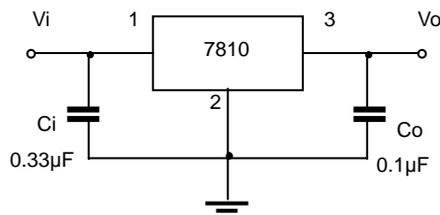
| Parameter | Symbol | Value | Unit |
|---|-----------------|----------|--------------------|
| Input Voltage | V_i | 35 | V |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 83.3 | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range | T_{OPR} | -25~+125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65~+150 | $^\circ\text{C}$ |

Electrical characteristics At Specified Virtual Junction Temperature

($V_{in}=16\text{V}$, $I_o=500\text{mA}$, $C_i=0.33\mu\text{F}$, unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------|-------------------------|--|------------------------|------|------|----------------------|
| Output voltage | V_o | 25°C | 9.50 | 10 | 10.5 | V |
| | | $12.5\text{V} \leq V_i \leq 24\text{V}$, $I_o = 5\text{mA} - 1\text{A}$, $P \leq 15\text{W}$ | 0-125 $^\circ\text{C}$ | 9.60 | 10 | 10.6 |
| Load Regulation | ΔV_o | $I_o = 5\text{mA} - 1.5\text{A}$ | 25°C | 12 | 180 | mV |
| | | $I_o = 250\text{mA} - 750\text{mA}$ | 25°C | 4 | 90 | mV |
| Line regulation | ΔV_o | $12.5\text{V} \leq V_i \leq 28\text{V}$ | 25°C | 7 | 180 | mV |
| | | $13\text{V} \leq V_i \leq 19\text{V}$ | 25°C | 2 | 90 | mV |
| Quiescent Current | I_q | 25°C | | 4.3 | 8 | mA |
| Quiescent Current Change | ΔI_q | $12.5\text{V} \leq V_i \leq 28\text{V}$ | 0-125 $^\circ\text{C}$ | | 1 | mA |
| | | $5\text{mA} \leq I_o \leq 1\text{A}$ | 0-125 $^\circ\text{C}$ | | 0.5 | mA |
| Output voltage drift | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$ | 0-125 $^\circ\text{C}$ | -1 | | mV/ $^\circ\text{C}$ |
| Output Noise Voltage | V_N | $10\text{Hz} \leq f \leq 100\text{KHz}$ | 25°C | 60 | | μV |
| Ripple Rejection | RR | $13\text{V} \leq V_i \leq 25\text{V}$, $f = 120\text{Hz}$ | 0-125 $^\circ\text{C}$ | 55 | 70 | dB |
| Dropout Voltage | V_d | $I_o = 1\text{A}$ | 25°C | 2 | | V |
| Output resistance | R_o | $f = 1\text{KHz}$ | 25°C | 18 | | m Ω |
| Short Circuit Current | I_{sc} | 25°C | | 400 | | mA |
| Peak Current | I_{pk} | 25°C | | 2.2 | | A |

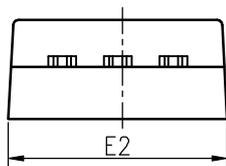
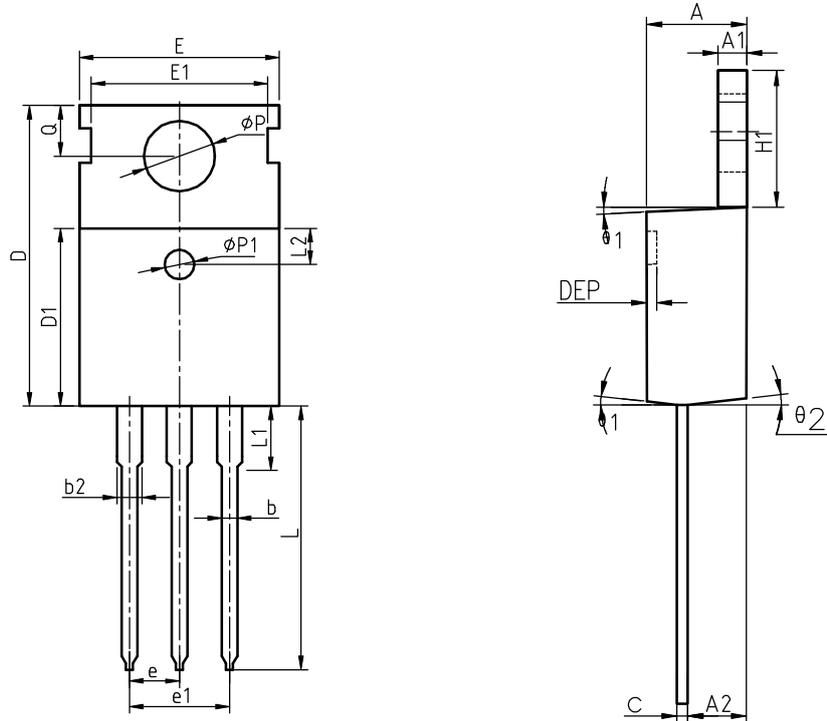
TYPICAL APPLICATION



Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.



Package Information
TO-220



COMMON DIMENSIONS

| SYMBOL | MIN | NOM | MAX | MIN | NOM | MAX |
|---------|-------|-------|-------|-------|-------|-------|
| A | 4.40 | 4.57 | 4.70 | 0.173 | 0.180 | 0.185 |
| A1 | 1.27 | 1.30 | 1.33 | 0.050 | 0.051 | 0.052 |
| A2 | 2.35 | 2.40 | 2.50 | 0.093 | 0.094 | 0.098 |
| b | 0.77 | 0.80 | 0.90 | 0.030 | 0.031 | 0.035 |
| b2 | 1.17 | 1.27 | 1.36 | 0.046 | 0.050 | 0.054 |
| c | 0.48 | 0.50 | 0.56 | 0.019 | 0.020 | 0.022 |
| D | 15.40 | 15.60 | 15.80 | 0.606 | 0.614 | 0.622 |
| D1 | 9.00 | 9.10 | 9.20 | 0.354 | 0.358 | 0.362 |
| DEP | 0.05 | 0.10 | 0.20 | 0.002 | 0.004 | 0.008 |
| E | 9.80 | 10.00 | 10.20 | 0.386 | 0.394 | 0.402 |
| E1 | - | 8.70 | - | - | 0.343 | - |
| E2 | 9.80 | 10.00 | 10.20 | 0.386 | 0.394 | 0.402 |
| e | | 2.54 | BSC | | 0.100 | BSC |
| e1 | | 5.08 | BSC | | 0.200 | BSC |
| H1 | 6.40 | 6.50 | 6.60 | 0.252 | 0.256 | 0.260 |
| L | 12.75 | 13.50 | 13.65 | 0.502 | 0.531 | 0.537 |
| L1 | - | 3.10 | 3.30 | - | 0.122 | 0.130 |
| L2 | | 2.50 | REF | | 0.098 | REF |
| P | 3.50 | 3.60 | 3.63 | 0.138 | 0.142 | 0.143 |
| P1 | 3.50 | 3.60 | 3.63 | 0.138 | 0.142 | 0.143 |
| Q | 2.73 | 2.80 | 2.87 | 0.107 | 0.110 | 0.113 |
| theta 1 | 5° | 7° | 9° | 5° | 7° | 9° |
| theta 2 | 1° | 3° | 5° | 1° | 3° | 5° |
| theta 3 | 1° | 3° | 5° | 1° | 3° | 5° |



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