

## isc Three Terminal Positive Voltage Regulator

L7810CV

## FEATURES

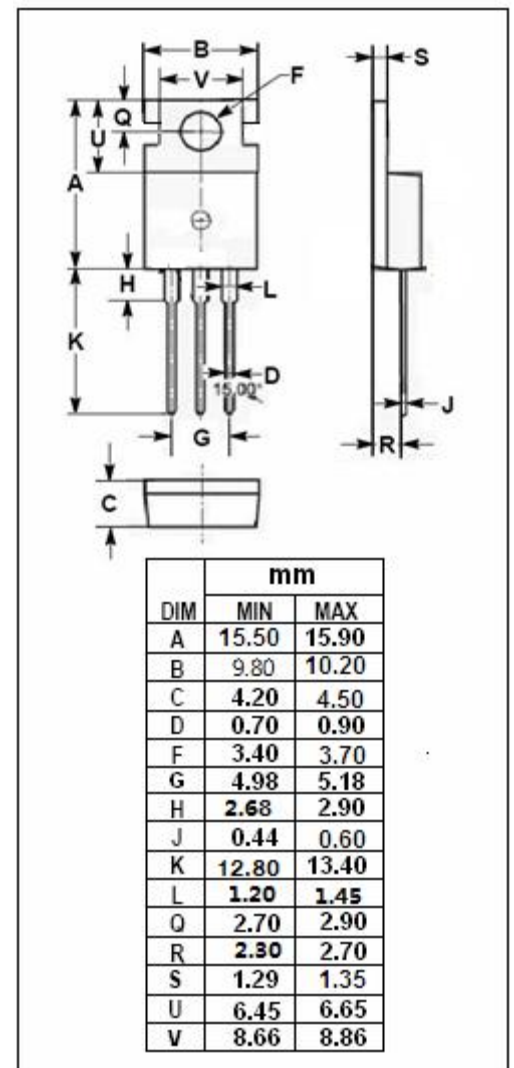
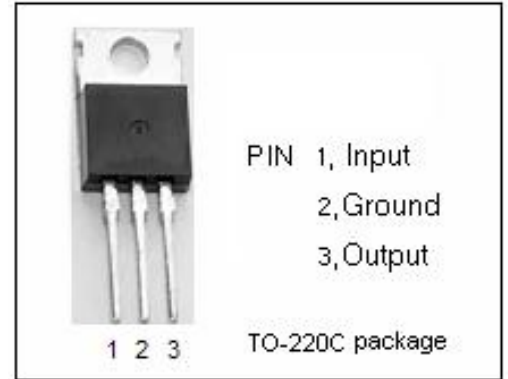
- Output current in excess of 1.5A
- Output voltage of 10V
- Internal thermal overload protection
- Output transition Safe-Area compensation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

| SYMBOL    | PARAMETER                      | RATING             | UNIT               |
|-----------|--------------------------------|--------------------|--------------------|
| $V_i$     | DC input voltage               | 35                 | V                  |
| $I_o$     | Output current                 | internally limited |                    |
| $P_{tot}$ | Power dissipation              | internally limited |                    |
| $T_{OP}$  | Operating junction temperature | -40~125            | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage temperature            | -55~150            | $^{\circ}\text{C}$ |

## THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                               | MAX | UNIT                 |
|---------------|---|-----|----------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case    | 3   | $^{\circ}\text{C/W}$ |
| $R_{th\ j-a}$ | Thermal Resistance, Junction to Ambient | 50  | $^{\circ}\text{C/W}$ |



**isc Three Terminal Positive Voltage Regulator****L7810CV****• ELECTRICAL CHARACTERISTICS**

$T_J=25^{\circ}\text{C}$  ( $V_i=16\text{V}$ ,  $I_o=0.5\text{A}$ ,  $C_i=0.33\ \mu\text{F}$ ,  $C_o=0.1\ \mu\text{F}$  unless otherwise specified)

| SYMBOL        | PARAMETER                | CONDITIONS  | MIN | MAX  | UNIT |
|---------------|--------------------------|---|-----|------|------|
| $V_o$         | Output Voltage           | $V_{in}=16\text{V}$ ; $I_o=500\text{mA}$                        | 9.5 | 10.5 | V    |
| $\Delta V_v$  | Line Regulation          | $12.5\text{V} \leq V_{in} \leq 25\text{V}$ ; $I_o=500\text{mA}$ |     | 100  | mV   |
| $\Delta V_i$  | Load Regulation          | $5.0\text{mA} \leq I_o \leq 1.5\text{A}$ ; $V_{in}=16\text{V}$  |     | 100  | mV   |
| $I_b$         | Quiescent Current        | $V_{in}=16\text{V}$ ; $I_o=1\text{A}$                           |     | 8.0  | mA   |
| $\Delta_{b1}$ | Quiescent Current Change | $5.0\text{mA} \leq I_o \leq 1.0\text{A}$ ; $V_{in}=16\text{V}$  |     | 0.5  | mA   |
| $\Delta_{b2}$ | Quiescent Current Change | $12.5\text{V} \leq V_{in} \leq 25\text{V}$ ; $I_o=500\text{mA}$ |     | 1.0  | mA   |

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