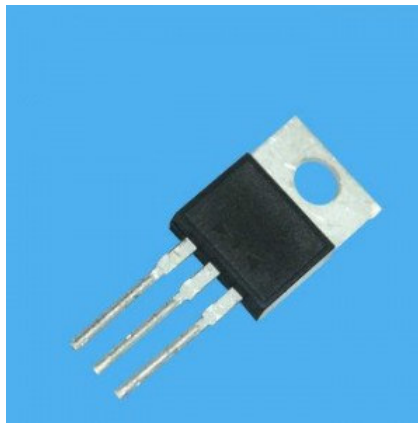




**TIP31 Bipolar Transistors TO-220**



**Absolute Maximum Ratings**  $T_C=25^\circ\text{C}$  unless otherwise noted

| Symbol    | Parameter  | Value      | Units            |
|-----------|--|------------|------------------|
| $V_{CBO}$ | Collector-Base Voltage : TIP31                   | 40         | V                |
|           | : TIP31A   | 60         | V                |
|           | : TIP31B   | 80         | V                |
|           | : TIP31C   | 100        | V                |
| $V_{CEO}$ | Collector-Emitter Voltage : TIP31                | 40         | V                |
|           | : TIP31A   | 60         | V                |
|           | : TIP31B   | 80         | V                |
|           | : TIP31C   | 100        | V                |
| $V_{EBO}$ | Emitter-Base Voltage                             | 5          | V                |
| $I_C$     | Collector Current (DC)                           | 3          | A                |
| $I_{CP}$  | Collector Current (Pulse)                        | 5          | A                |
| $I_B$     | Base Current                                     | 1          | A                |
| $P_C$     | Collector Dissipation ( $T_C=25^\circ\text{C}$ ) | 40         | W                |
|           | Collector Dissipation ( $T_a=25^\circ\text{C}$ ) | 2          | W                |
| $T_J$     | Junction Temperature                             | 150        | $^\circ\text{C}$ |
| $T_{STG}$ | Storage Temperature                              | - 65 ~ 150 | $^\circ\text{C}$ |