

Pb Free Plating Product

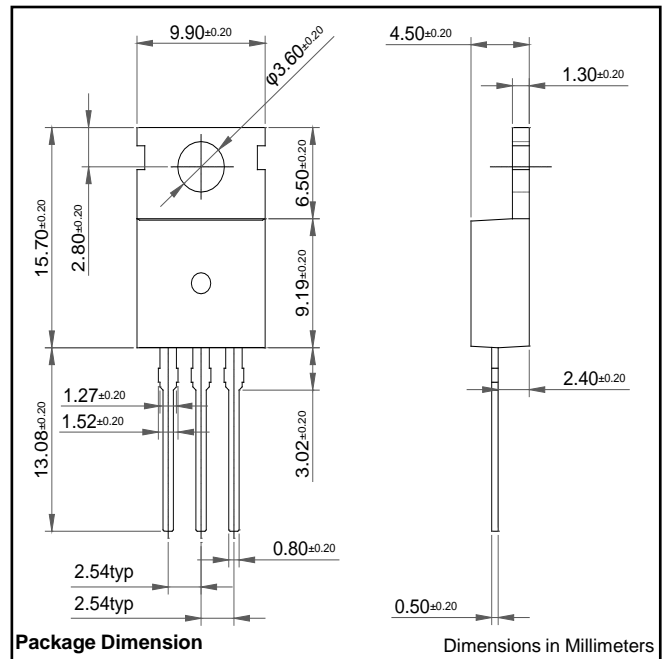
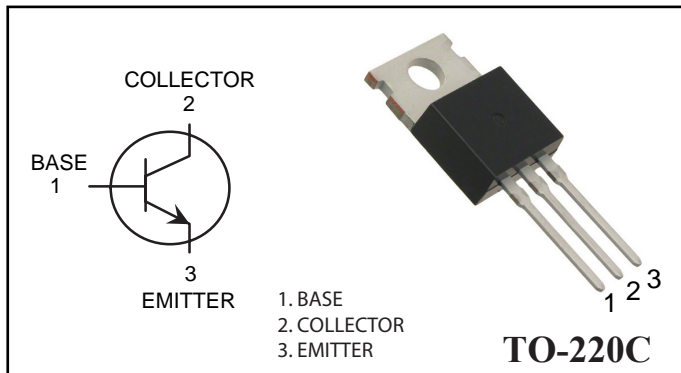
## TIP41/TIP41A/TIP41B/TIP41C



### NPN Silicon Epitaxial Power Transistor

#### FEATURES:

- \* Medium Power Linear Switching Applications
- \* Complement to TIP42/TIP42A/TIP42B/TIP42C



#### MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

| Symbol    | Parameter                     | TIP41   | TIP41A | TIP41B | TIP41C | Units            |
|-----------|-------------------------------|---------|--------|--------|--------|------------------|
| $V_{CB0}$ | Collector-Base Voltage        | 40      | 60     | 80     | 100    | V                |
| $V_{CEO}$ | Collector-Emitter Voltage     | 40      | 60     | 80     | 100    | V                |
| $V_{EBO}$ | Emitter-Base Voltage          | 5       |        |        |        | V                |
| $I_C$     | Collector Current -Continuous | 6       |        |        |        | A                |
| $P_C$     | Collector Power Dissipation   | 2       |        |        |        | W                |
| $T_J$     | Junction Temperature          | 150     |        |        |        | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature           | -55-150 |        |        |        | $^\circ\text{C}$ |

## ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

| Parameter                            | Symbol                  | Test conditions          | MIN   | MAX | UNIT  |
|--------------------------------------|-------------------------|--------------------------|---|-----|-------|
| Collector-base breakdown voltage     | TIP41                   | $I_C=1\text{mA}, I_E=0$  | 40  |     | V     |
|                                      | TIP41A                  |                          | 60  |     |       |
|                                      | TIP41B                  |                          | 80  |     |       |
|                                      | TIP41C                  |                          | 100   |     |       |
| Collector-emitter breakdown voltage  | TIP41                   | $I_C=30\text{mA}, I_B=0$ | 40  |     | V     |
|                                      | TIP41A                  |                          | 60  |     |       |
|                                      | TIP41B                  |                          | 80  |     |       |
|                                      | TIP41C                  |                          | 100   |     |       |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$           | $I_E=1\text{mA}, I_C=0$  | 5   |     | V     |
| Collector cut-off current            | TIP41                   | $I_{CBO}$                | $V_{CB}=40\text{V}, I_E=0$                                | 0.4 | mA    |
|                                      | TIP41A                  |                          | $V_{CB}=60\text{V}, I_E=0$                                |     |       |
|                                      | TIP41B                  |                          | $V_{CB}=80\text{V}, I_E=0$                                |     |       |
|                                      | TIP41C                  |                          | $V_{CB}=100\text{V}, I_E=0$                               |     |       |
| Collector cut-off current            | TIP41/41A<br>TIP41B/41C | $I_{CEO}$                | $V_{CE}=30\text{V}, I_B=0$<br>$V_{CE}=60\text{V}, I_B=0$  | 0.7 | mA    |
| Emitter cut-off current              |                         | $I_{EBO}$                | $V_{EB}=5\text{V}, I_C=0$                                 | 1   | mA    |
| DC current gain                      |                         | $h_{FE(1)}$              | $V_{CE}=4\text{V}, I_C=0.3\text{A}$                       | 30  |       |
|                                      |                         | $h_{FE(2)}$              | $V_{CE}=4\text{V}, I_C=3\text{A}$                         | 15  | 75    |
| Collector-emitter saturation voltage |                         | $V_{CE(sat)}$            | $I_C=6\text{A}, I_B=0.6\text{A}$                          |     | 1.5 V |
| Base-emitter voltage                 |                         | $V_{BE(on)}$             | $V_{CE}=4\text{V}, I_C=6\text{A}$                         |     | 2 V   |
| Transition Frequency                 |                         | $f_T$                    | $V_{CE}=10\text{V}, I_C=0.5\text{A}$<br>$f = 1\text{MHz}$ | 3   | MHz   |