

**TRANSISTOR (NPN)**
**Plastic-Encapsulate Transistor**
**FEATURES**

Power dissipation

$$P_{CM}: 2W \text{ (Tamb}=25^{\circ}\text{C)}$$

Collector current

$$I_{CM}: 6A$$

Collector-base voltage

$$V_{(BR)CBO}: \text{TIP41A: } 60V$$

$$\text{TIP41B: } 80V$$

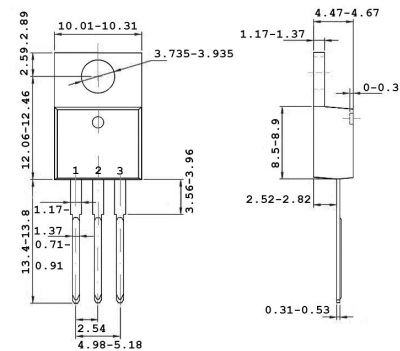
$$\text{TIP41C: } 100V$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55^{\circ}\text{C to } +150^{\circ}\text{C}$$

**TO-220**

1. BASE
2. COLLECTOR
3. EMITTER



UNIT:mm

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

**ELECTRICAL CHARACTERISTICS**

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