



TO-220 Plastic-Encapsulated Transistors

TIP42A/42B/42C TRANSISTOR (PNP)

FEATURES

Power dissipation

$$P_{CM}: 2 \text{ W (Tamb=25°C)}$$

Collector current

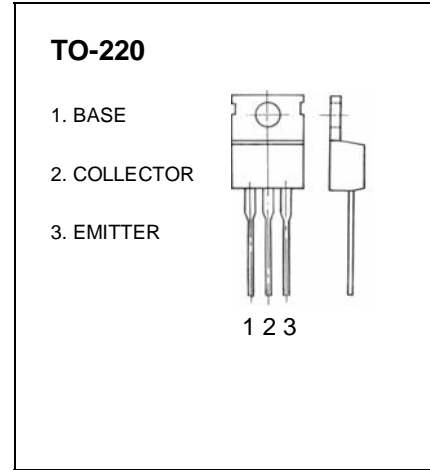
$$I_{CM}: -6 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: \begin{array}{ll} \text{TIP42A:} & -60 \text{ V} \\ \text{TIP42B:} & -80 \text{ V} \\ \text{TIP42C:} & -100 \text{ V} \end{array}$$

Operating and storage junction temperature range

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



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

| Parameter | Symbol | Test conditions | MIN | MAX | UNIT |
|--|---------------|--|--------------------|------|------|
| Collector-base breakdown voltage 42A 42B 42C | $V_{(BR)CBO}$ | $I_C = -1\text{mA}, I_E = 0$ | -60 -80 -100 | | V |
| Collector-emitter breakdown voltage 42A 42B 42C | $V_{(BR)CEO}$ | $I_C = -30\text{mA}, I_B = 0$ | -60 -80 -100 | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = -1\text{mA}, I_C = 0$ | -5 | | V |
| Collector cut-off current 42A 42B 42C | I_{CBO} | $V_{CB} = -60\text{V}, I_E = 0$ $V_{CB} = -80\text{V}, I_E = 0$ $V_{CB} = -100\text{V}, I_E = 0$ | | -0.4 | mA |
| Collector cut-off current 42A 42B 42C | I_{CEO} | $V_{CE} = -30\text{V}, I_B = 0$ $V_{CE} = -30\text{V}, I_B = 0$ $V_{CE} = -60\text{V}, I_B = 0$ | | -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 | $V_{CE} = -10\text{V}, I_C = -0.5\text{A}$ $f = 1\text{MHz}$ | 3 | | MHz |