



## TO-220 Plastic-Encapsulated Transistors

### 2SA940 TRANSISTOR (PNP)

#### FEATURES

Power dissipation

$$P_{CM} : 1.5 \text{ W (Tamb=25°C)}$$

Collector current

$$I_{CM} : -1.5 \text{ A}$$

Collector-base voltage

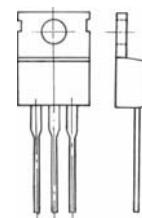
$$V_{(BR)CBO} : -150 \text{ V}$$

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



1 2 3

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

| Parameter                            | Symbol        | Test conditions                                  | MIN   | TYP | MAX   | UNIT          |
|--------------------------------------|---------------|--------------------------------------------------|-------|-----|-------|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C = -100\mu\text{A}, I_E = 0$                 | -150  |     |       | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C = -1\text{mA}, I_B = 0$                     | -150  |     |       | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E = -100\mu\text{A}, I_C = 0$                 | -5    |     |       | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = -120\text{V}, I_E = 0$                 |       |     | -10   | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = -5\text{V}, I_C = 0$                   |       |     | -10   | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE} = -10\text{V}, I_C = -500\text{mA}$      | 40    |     | 140   |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -500\text{mA}, I_B = -50\text{mA}$        |       |     | -1.5  | V             |
| Base-emitter voltage                 | $V_{BE}$      | $V_{CE} = -10\text{V}, I_C = -500\text{mA}$      | -0.65 |     | -0.85 | V             |
| Transition frequency                 | $f_T$         | $V_{CE} = -10\text{V}, I_C = -500\text{mA}$      |       | 4   |       | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$ |       | 55  |       | pF            |