

TO-126 Plastic-Encapsulate Transistors

AV882 TRANSISTOR (NPN)

FEATURES

Power dissipation

$$P_{CM} : 1.25 \text{ W (Tamb=25}^\circ\text{C)}$$

Collector current

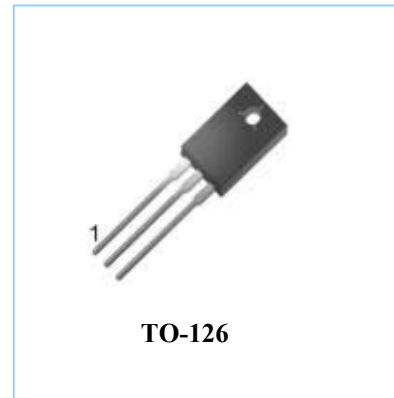
$$I_{CM} : 3 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : 40 \text{ V}$$

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 | $V_{(BR)CBO}$ | $I_C = 100 \mu\text{A}, I_E = 0$ | 40 | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = 10 \text{ mA}, I_B = 0$ | 30 | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = 100 \mu\text{A}, I_C = 0$ | 6 | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = 40 \text{ V}, I_E = 0$ | | 1 | μA |
| Collector cut-off current | I_{CEO} | $V_{CE} = 30 \text{ V}, I_B = 0$ | | 1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 6 \text{ V}, I_C = 0$ | | 1 | μA |
| DC current gain | $H_{FE(1)}$ | $V_{CE} = 2 \text{ V}, I_C = 1 \text{ A}$ | 60 | 400 | |
| | $H_{FE(2)}$ | $V_{CE} = 2 \text{ V}, I_C = 100 \text{ mA}$ | 32 | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 2 \text{ A}, I_B = 0.2 \text{ A}$ | | 0.5 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 2 \text{ A}, I_B = 0.2 \text{ A}$ | | 2 | V |
| Transition frequency | f_T | $V_{CE} = 5 \text{ V}, I_C = 0.1 \text{ A}$ $f = 10 \text{ MHz}$ | 50 | | MHz |

CLASSIFICATION OF HFE(1)

| Rank | R | O | Y | GR |
|-------|--------|---------|---------|---------|
| Range | 60-120 | 100-200 | 160-320 | 200-400 |

TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Static characteristics

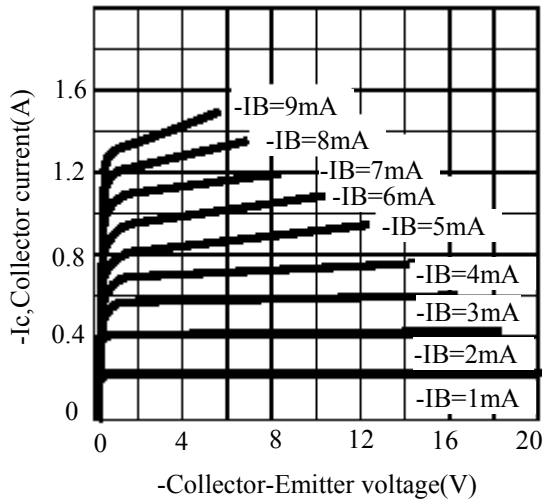


Fig.2 Derating curve of safe operating areas

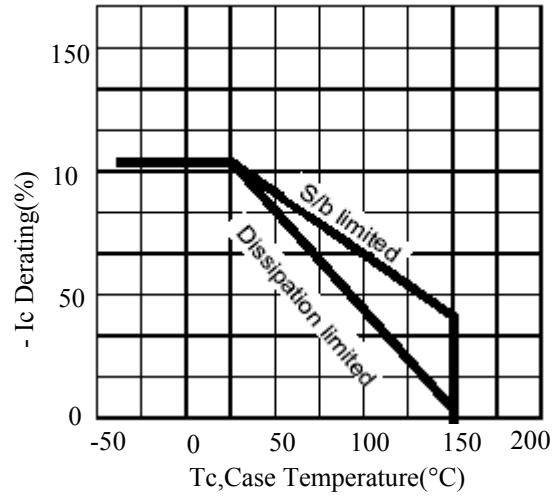


Fig.3 Power Derating

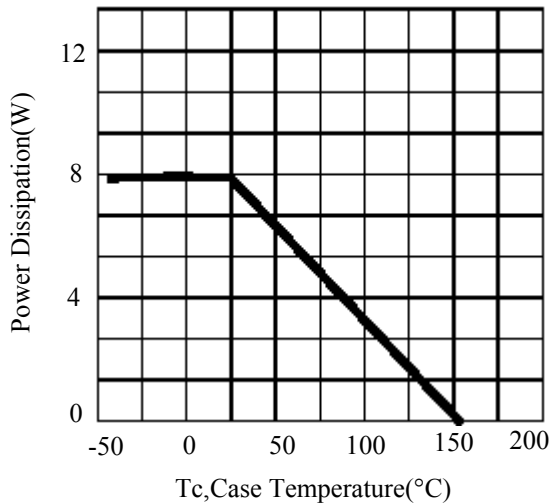


Fig.4 Collector Output capacitance

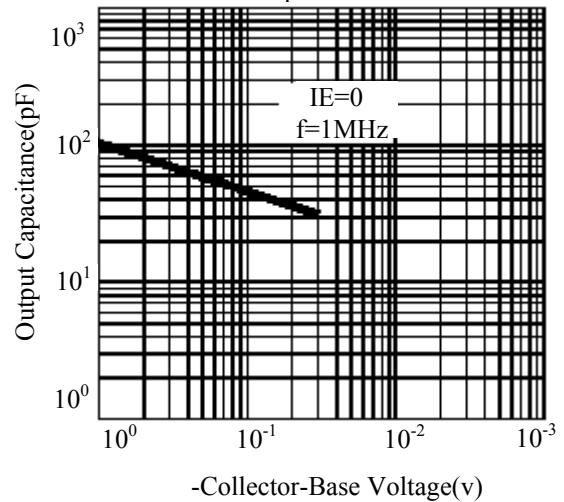


Fig.5 Current gain-bandwidth product

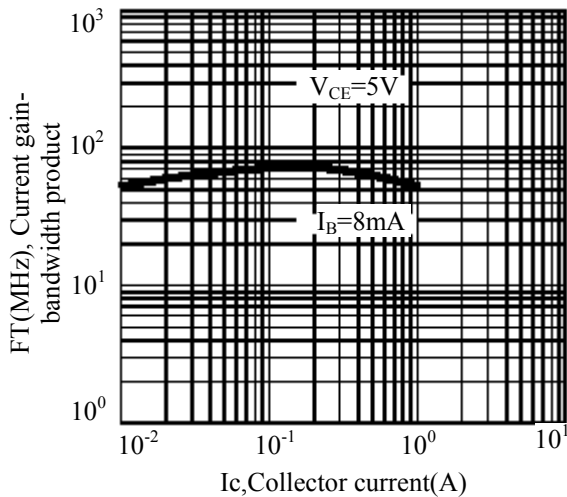


Fig.6 Safe operating area

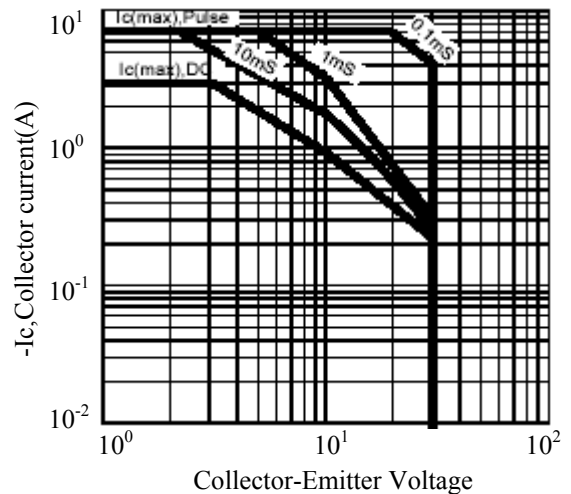


Fig.7 DC current gain

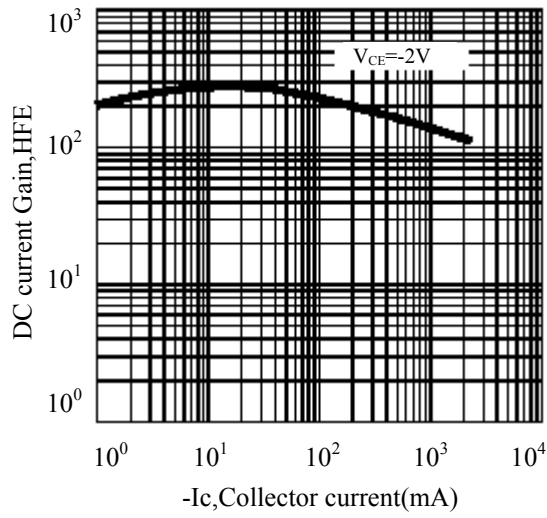


Fig.8 Saturation

