

FEATURE

Power dissipation

$$P_{CM} : 0.625 \text{ W } T_{amb}=25$$

Collector current

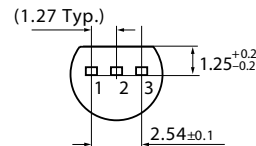
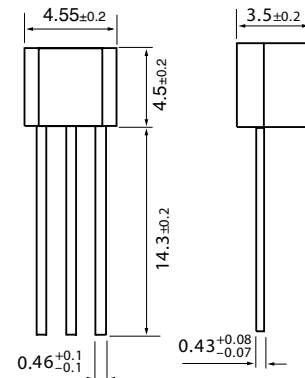
$$I_{CM} : -0.5 \text{ A}$$

Collector-base voltage

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

Operating and storage junction temperature range

$$T_j, T_{stg} : -55 \text{ to } +150$$

TO-92

 1: Emitter
 2: Base
 3: Collector

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|---|-----|-----|------|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = -100 \mu\text{A}, I_E = 0$ | -40 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -1 \text{ mA}, I_B = 0$ | -25 | | | 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} | $V_{CB} = -40\text{V}, I_E = 0$ | | | -0.1 | μA |
| Collector cut-off current | I_{CBO} | $V_{CB} = -20\text{V}, I_E = 0$ | | | -0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5\text{V}, I_C = 0$ | | | -0.1 | μA |
| DC current gain | $h_{FE(1)}$ | $V_{CE} = -1\text{V}, I_C = -50\text{mA}$ | 64 | | 300 | |
| | $h_{FE(2)}$ | $V_{CE} = -1\text{V}, I_C = -500\text{mA}$ | 40 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -500 \text{ mA}, I_B = -50\text{mA}$ | | | -0.6 | V |
| Base-emitter voltage | $V_{BE(sat)}$ | $I_C = -500 \text{ mA}, I_B = -50\text{mA}$ | | | -1.2 | V |
| Transition frequency | f_T | $V_{CE} = -6\text{V}, I_C = -20\text{mA}, f = 30\text{MHz}$ | 150 | | | MHz |

CLASSIFICATION OF $h_{FE(1)}$

| Rank | D | E | F | G | H | I |
|-------|-------|--------|--------|---------|---------|---------|
| Range | 64-91 | 78-112 | 96-135 | 112-166 | 144-202 | 190-300 |

Typical Characteristics

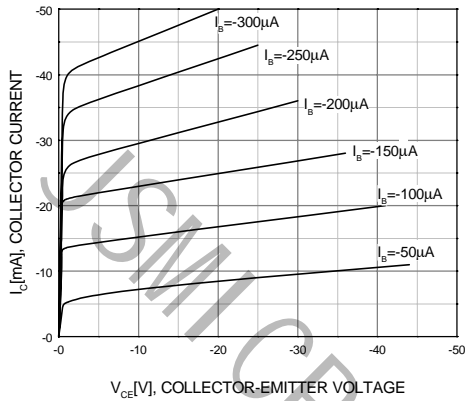


Figure 1. Static Characteristic

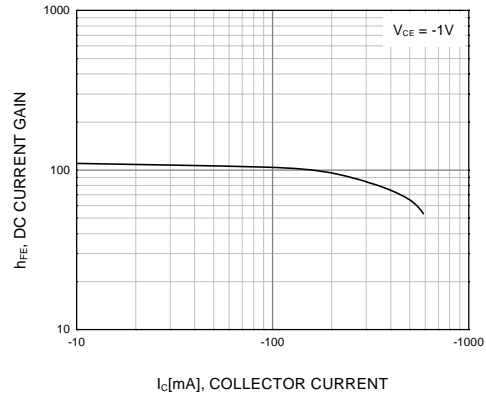


Figure 2. DC current Gain

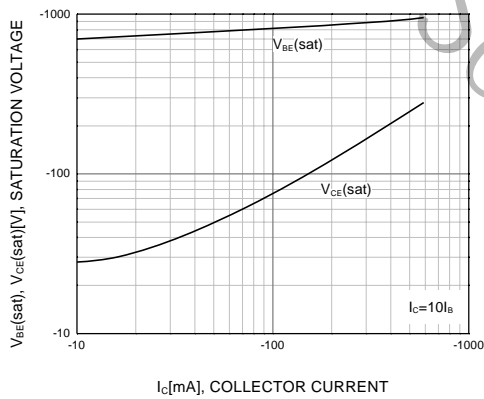


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

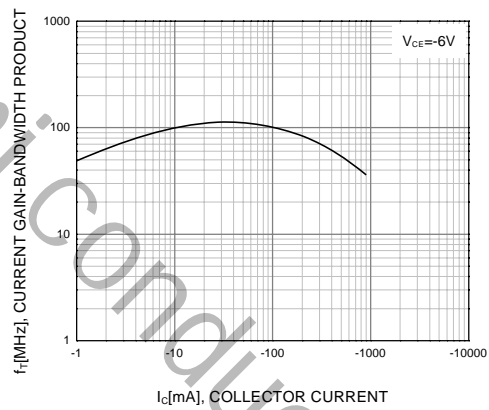


Figure 4. Current Gain Bandwidth Product