

2SA1774 TRANSISTOR (PNP)

FEATURES

Power dissipation

$$P_{CM} : 0.15 \text{ W (Tamb=25°C)}$$

Collector current

$$I_{CM} : -0.15 \text{ A}$$

Collector-base voltage

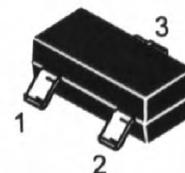
$$V_{(BR)CBO} : -60 \text{ V}$$

Operating and storage junction temperature range

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

SOT-523

1. BASE
2. EMITTER
3. COLLECTOR



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

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|--|-----|-----|------|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = -50\mu A, I_E = 0$ | -60 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -1mA, I_B = 0$ | -50 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = -50\mu A, I_C = 0$ | -7 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = -60V, I_E = 0$ | | | -0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -6V, I_C = 0$ | | | -0.1 | μA |
| DC current gain | $h_{FE(1)}$ | $V_{CE} = -6V, I_C = -1mA$ | 120 | | 560 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -50mA, I_B = -5mA$ | | | -0.5 | V |
| Transition frequency | f_T | $V_{CE} = -12V, I_C = -2mA, f = 30MHz$ | | 140 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -12V, I_E = 0, f = 1MHz$ | | | 5 | pF |

CLASSIFICATION OF $h_{FE(1)}$

| Rank | Q | R | S |
|---------|---------|---------|---------|
| Range | 120-270 | 180-390 | 270-560 |
| Marking | FQ | FR | FS |

Typical Characteristics

2SA1774

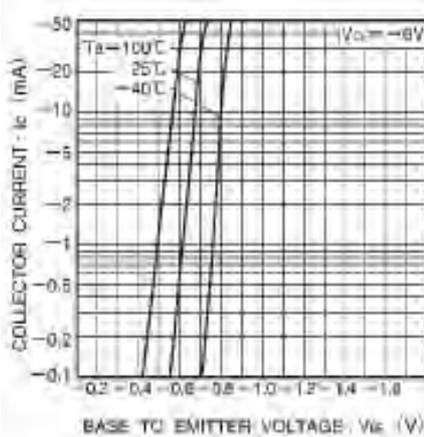


Fig.1 Grounded emitter propagation characteristics

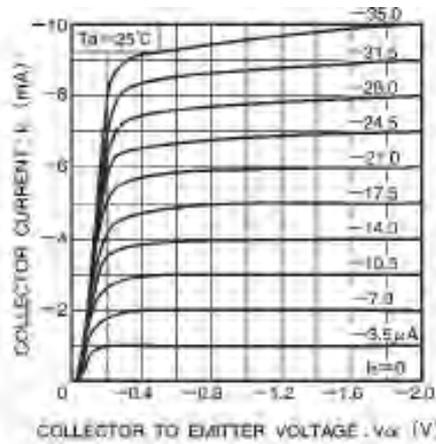


Fig.2 Grounded emitter output characteristics (I)

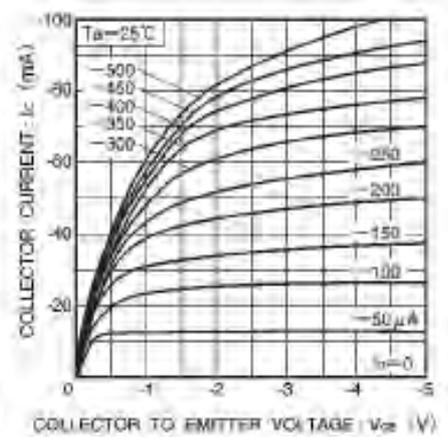


Fig.3 Grounded emitter output characteristics (II)

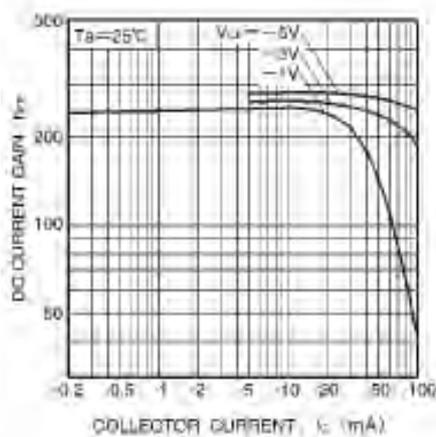


Fig.4 DC current gain vs. collector current (I)

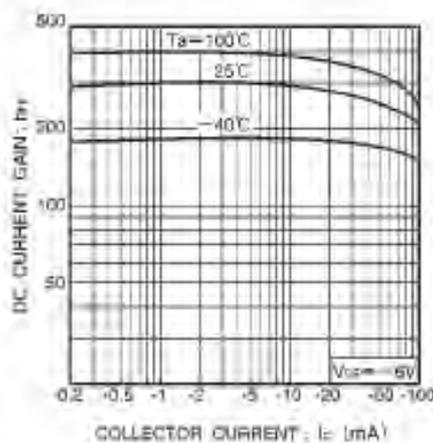


Fig.5 DC current gain vs. collector current (II)

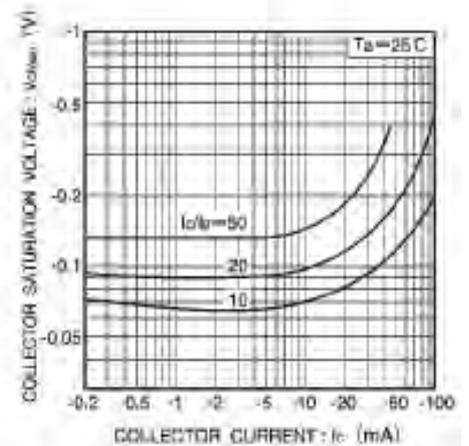


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

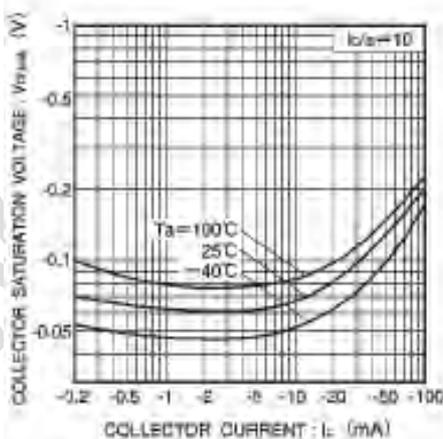


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

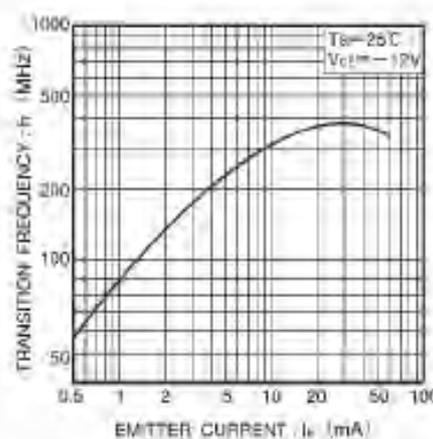


Fig.8 Gain bandwidth product vs. emitter current

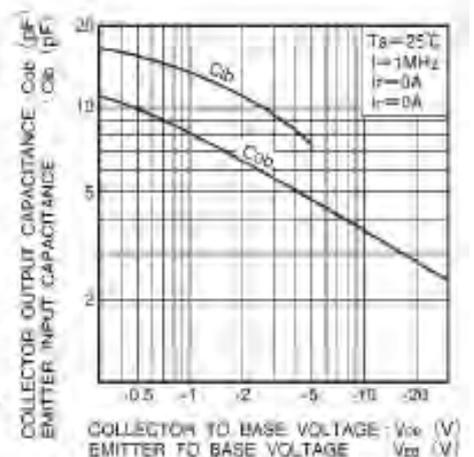


Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage