

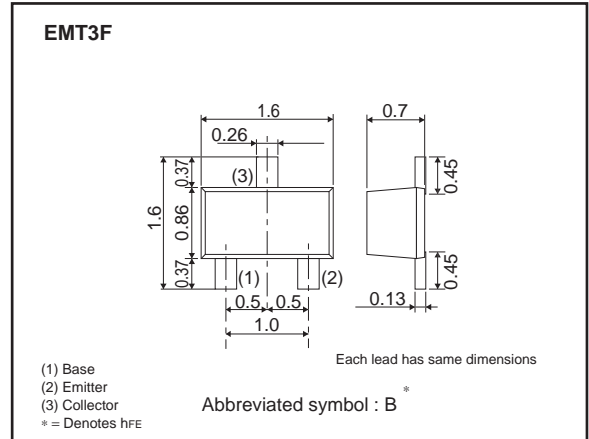
●Features

- 1) Excellent h_{FE} linearity.
- 2) Complements the 2SA1774EB.

●Structure

NPN silicon epitaxial planar transistor

●Dimensions (Unit : mm)



●Absolute maximum (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|------------------------------|-------------|-------------|------|
| Collector-base voltage | V_{CB0} | 60 | V |
| Collector-emitter voltage | V_{CE0} | 50 | V |
| Emitter-base voltage | V_{EB0} | 7 | V |
| Collector current | I_C | 150 | mA |
| | I_{CP} *1 | 200 | |
| Power dissipation | P_D *2 | 150 | mW |
| Junction temperature | T_j | 150 | °C |
| Range of storage temperature | T_{stg} | -55 to +150 | °C |

*1 $P_w=1ms$ Single pulse

*2 Each terminal mounted on a recommended land

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|---------------|------|------|------|------|----------------------------------|
| Collector-emitter breakdown voltage | BV_{CE0} | 50 | - | - | V | $I_C=1mA$ |
| Collector-base breakdown voltage | BV_{CB0} | 60 | - | - | V | $I_C=50\mu A$ |
| Emitter-base breakdown voltage | BV_{EB0} | 7 | - | - | V | $I_E=50\mu A$ |
| Collector cutoff current | I_{CBO} | - | - | 100 | nA | $V_{CB}=60V$ |
| Emitter cutoff current | I_{EBO} | - | - | 100 | nA | $V_{EB}=7V$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | - | - | 400 | mV | $I_C/I_B=50mA/5mA$ |
| DC current gain | h_{FE} | 120 | - | 560 | - | $V_{CE}=6V, I_C=1mA$ |
| Transition frequency | f_T | - | 180 | - | MHz | $V_{CE}=12V, I_E=-2mA, f=100MHz$ |
| Output capacitance | C_{ob} | - | 2 | 3.5 | pF | $V_{CE}=12V, I_E=0A, f=1MHz$ |

h_{FE} rank categories

| Rank | Q | R | S |
|----------|------------|------------|------------|
| h_{FE} | 120 to 270 | 180 to 390 | 270 to 560 |

Electrical characteristic curves

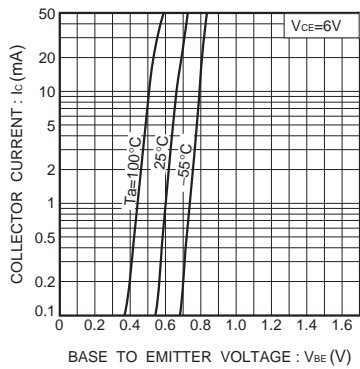


Fig.1 Grounded emitter propagation characteristics

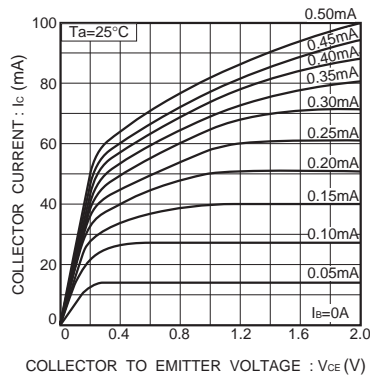


Fig.2 Grounded emitter output characteristics (I)

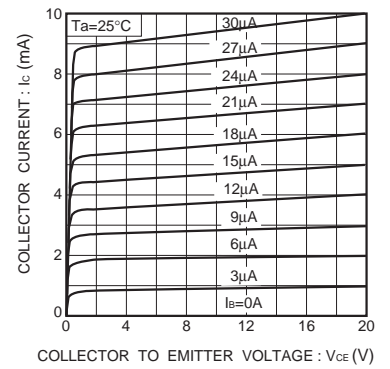


Fig.3 Grounded emitter output characteristics (II)

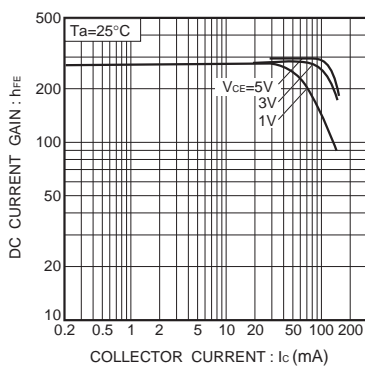


Fig.4 DC current gain vs. collector current (I)

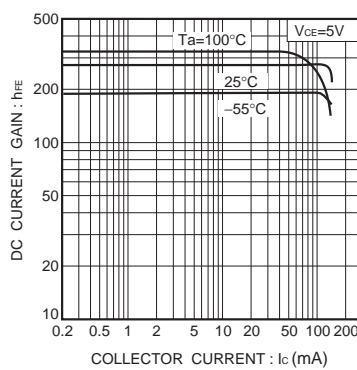


Fig.5 DC current gain vs. collector current (II)

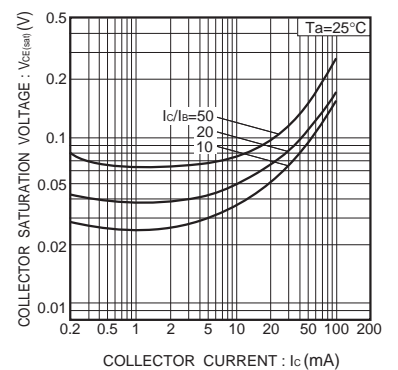


Fig.6 Collector-emitter saturation voltage vs. collector current

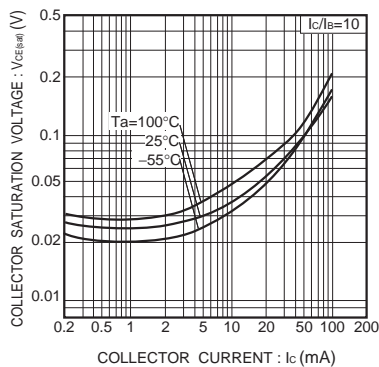


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

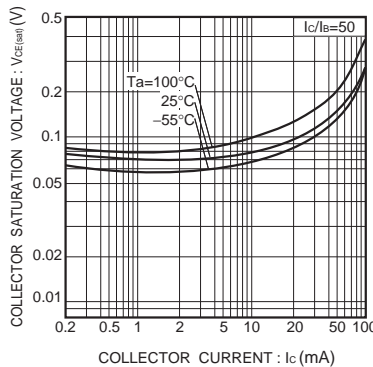


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

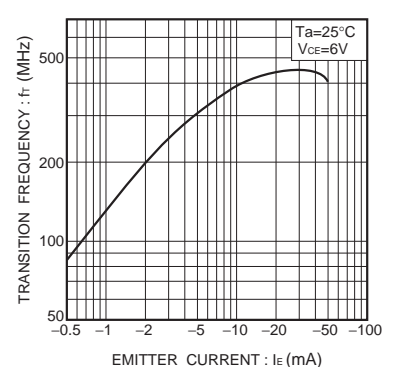


Fig.9 Gain bandwidth product vs. emitter current

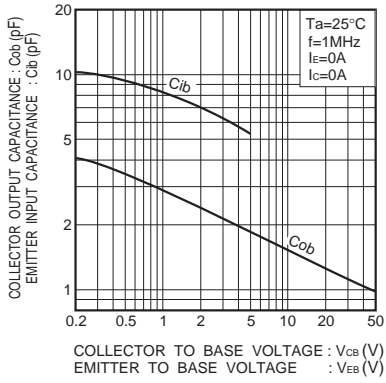


Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

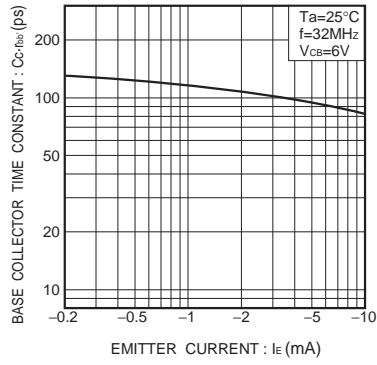


Fig.11 Base-collector time constant vs. emitter current

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