

2SC4808J

Silicon NPN epitaxial planar type

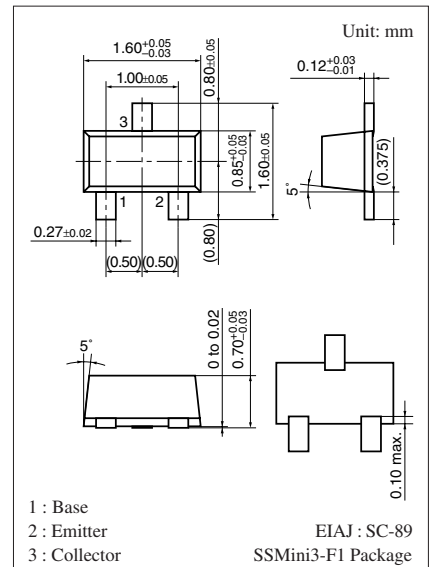
For UHF band low-noise amplification

■ Features

- Low noise figure NF
- High forward transfer gain $|S_{21e}|^2$
- High transition frequency f_T
- SS-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing.

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 15 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 10 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | 2 | V |
| Collector current | I_C | 80 | mA |
| Collector power dissipation | P_C | 125 | mW |
| Junction temperature | T_j | 125 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +125 | $^\circ\text{C}$ |



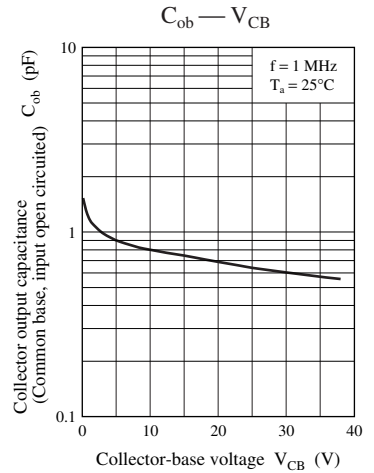
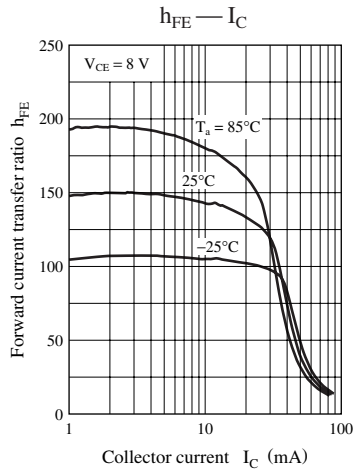
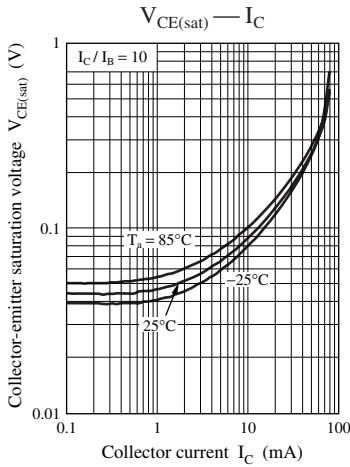
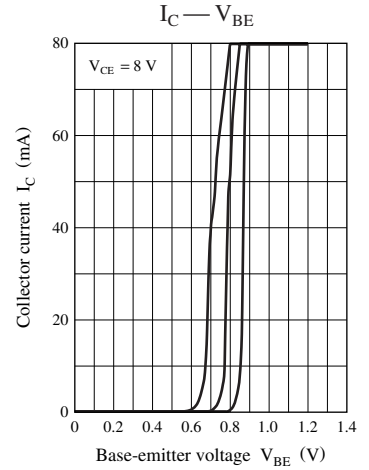
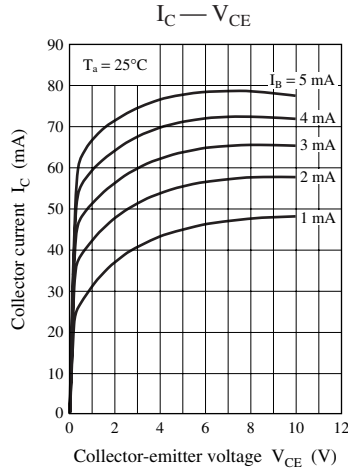
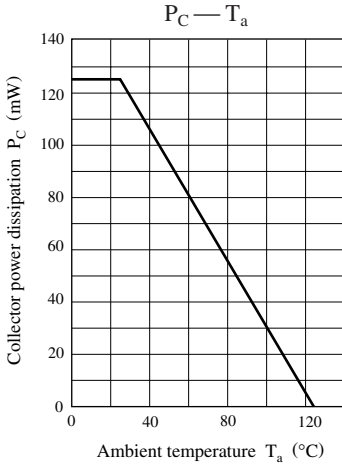
Marking Symbol: 3M

■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---------------|---|-----|-----|-----|---------------|
| Collector-base voltage (Emitter open) | V_{CBO} | $I_C = 10 \mu\text{A}, I_E = 0$ | 15 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 100 \mu\text{A}, I_B = 0$ | 10 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = 10 \text{V}, I_E = 0$ | | | 1 | μA |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = 2 \text{V}, I_C = 0$ | | | 1 | μA |
| Forward current transfer ratio * | h_{FE} | $V_{CE} = 8 \text{V}, I_C = 20 \text{mA}$ | 50 | 150 | 300 | — |
| Transition frequency | f_T | $V_{CE} = 8 \text{V}, I_C = 15 \text{mA}, f = 0.8 \text{GHz}$ | 5 | 6 | | GHz |
| Collector output capacitance (Common base, input open circuited) | C_{ob} | $V_{CB} = 10 \text{V}, I_E = 0, f = 1 \text{MHz}$ | | 0.7 | 1.2 | pF |
| Forward transfer gain | $ S_{21e} ^2$ | $V_{CE} = 8 \text{V}, I_C = 15 \text{mA}, f = 0.8 \text{GHz}$ | 11 | 14 | | dB |
| Maximum unilateral power gain | G_{UM} | $V_{CE} = 8 \text{V}, I_C = 15 \text{mA}, f = 0.8 \text{GHz}$ | | 15 | | dB |
| Noise figure | NF | $V_{CE} = 8 \text{V}, I_C = 7 \text{mA}, f = 0.8 \text{GHz}$ | | 1.3 | 2.0 | dB |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Pulse measurement



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