

2SC4835

Silicon NPN epitaxial planer type

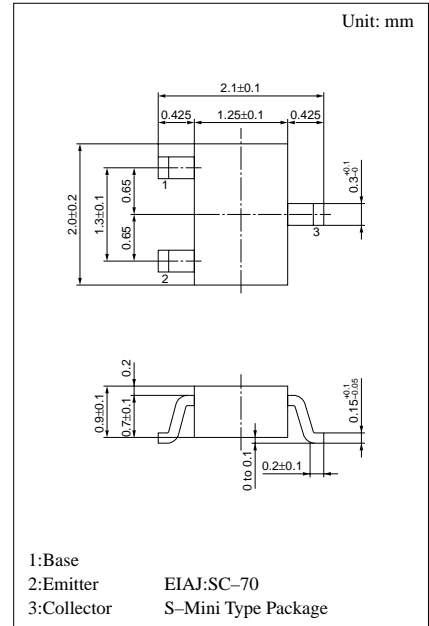
For UHF band low-noise amplification

Features

- Low noise figure NF.
- High gain.
- High transition frequency f_T .
- S-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Ratings | Unit |
|------------------------------|-----------|------------|------|
| Collector to base voltage | V_{CBO} | 15 | V |
| Collector to emitter voltage | V_{CEO} | 10 | V |
| Emitter to base voltage | V_{EBO} | 2 | V |
| Collector current | I_C | 80 | mA |
| Collector power dissipation | P_C | 150 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 ~ +150 | °C |



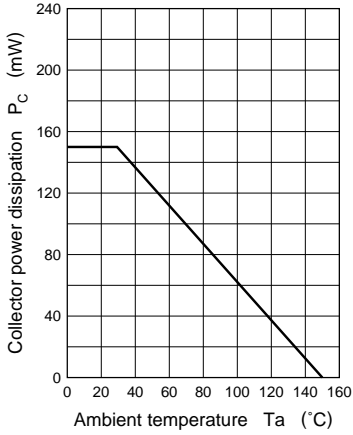
Marking symbol : 3M

Electrical Characteristics (Ta=25°C)

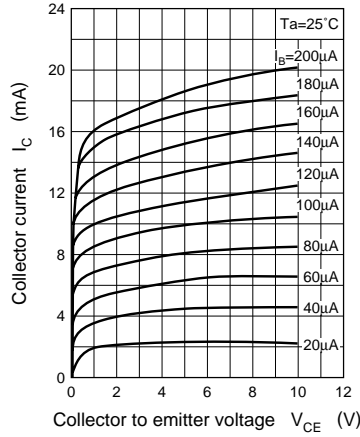
| Parameter | Symbol | Conditions | min | typ | max | Unit |
|--------------------------------|---------------|---------------------------------------|-----|-----|-----|---------|
| Collector cutoff current | I_{CBO} | $V_{CB} = 10V, I_E = 0$ | | | 1 | μA |
| Emitter cutoff current | I_{EBO} | $V_{EB} = 2V, I_C = 0$ | | | 1 | μA |
| Collector to base voltage | V_{CBO} | $I_C = 10\mu A, I_E = 0$ | 15 | | | V |
| Collector to emitter voltage | V_{CEO} | $I_C = 100\mu A, I_B = 0$ | 10 | | | V |
| Forward current transfer ratio | h_{FE} | $V_{CE} = 8V, I_C = 20mA^*$ | 50 | 150 | 200 | |
| Transition frequency | f_T | $V_{CE} = 8V, I_C = 15mA, f = 800MHz$ | 5 | 6 | | GHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | | 0.7 | 1.2 | pF |
| Forward transfer gain | $ S_{21c} ^2$ | $V_{CE} = 8V, I_C = 15mA, f = 800MHz$ | 11 | 14 | | dB |
| Maximum unilateral power gain | GUM | $V_{CE} = 8V, I_C = 15mA, f = 800MHz$ | | 15 | | dB |
| Noise figure | NF | $V_{CE} = 8V, I_C = 7mA, f = 800MHz$ | | 1.3 | 2 | dB |

* Pulse measurement

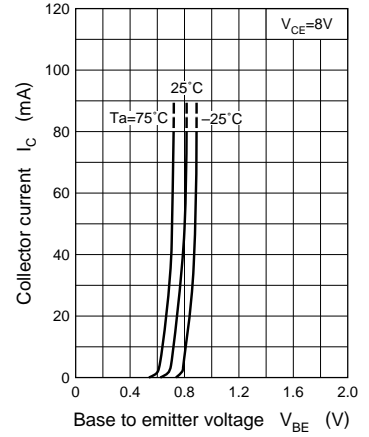
$P_C - T_a$



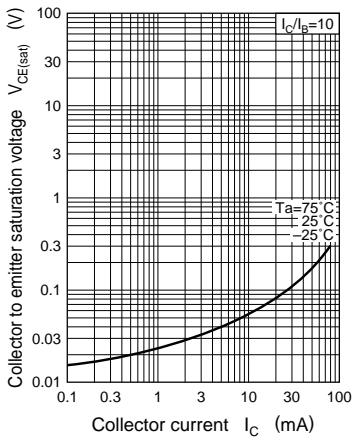
$I_C - V_{CE}$



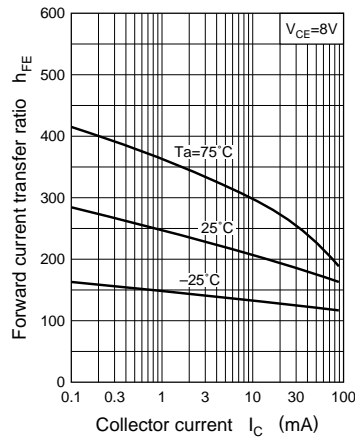
$I_C - V_{BE}$



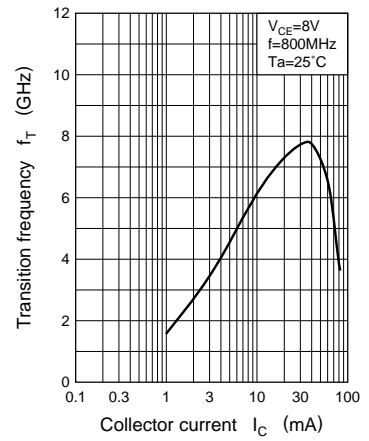
$V_{CE(sat)} - I_C$



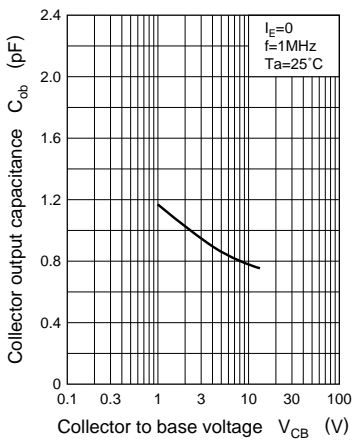
$h_{FE} - I_C$



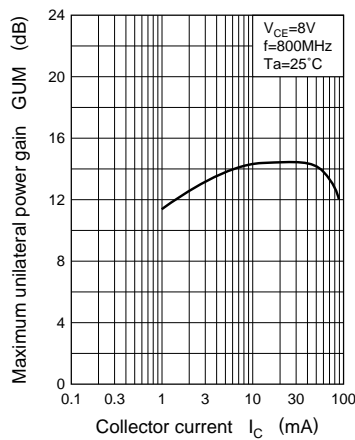
$f_T - I_C$



$C_{ob} - V_{CB}$



GUM - I_C



NF - I_C

