

2SC2377

Silicon NPN epitaxial planar type

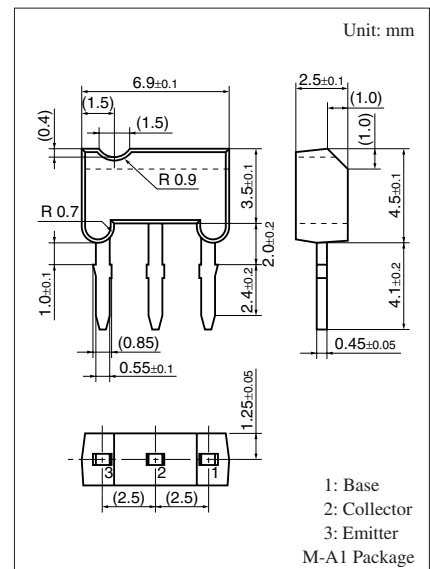
For high-frequency amplification

■ Features

- Optimum for RF amplification of FM/AM radios
- High transition frequency f_T
- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board

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

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 30 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 20 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | 3 | V |
| Collector current | I_C | 15 | mA |
| Collector power dissipation | P_C | 200 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |



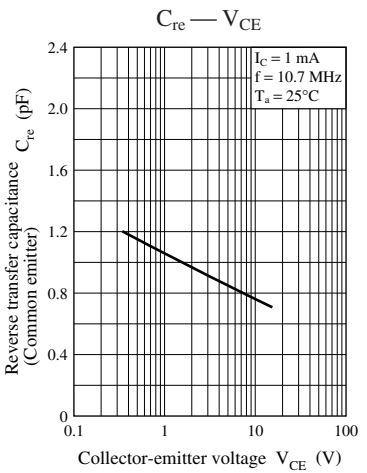
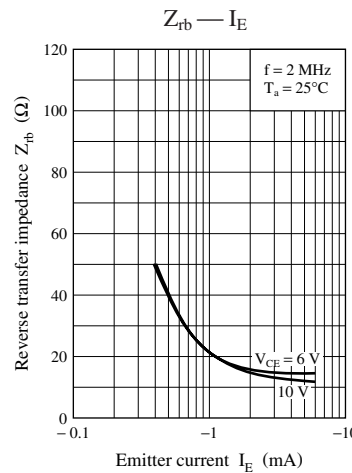
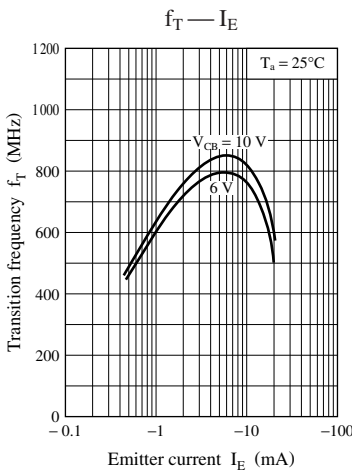
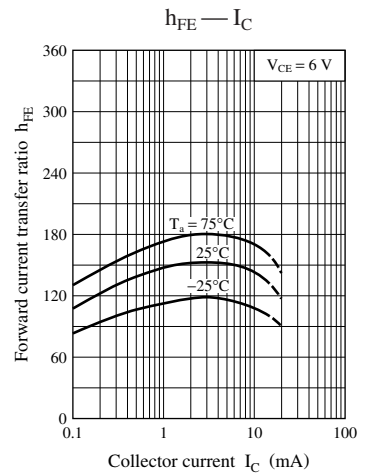
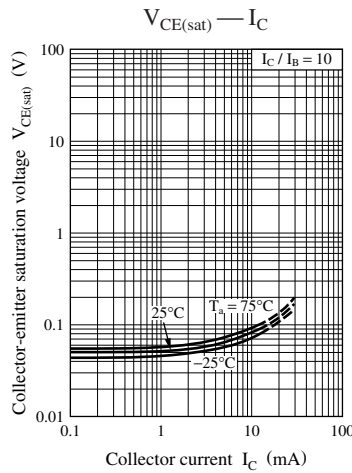
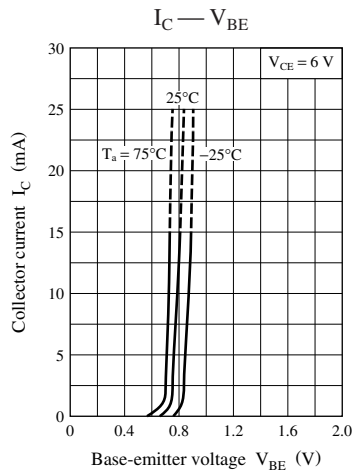
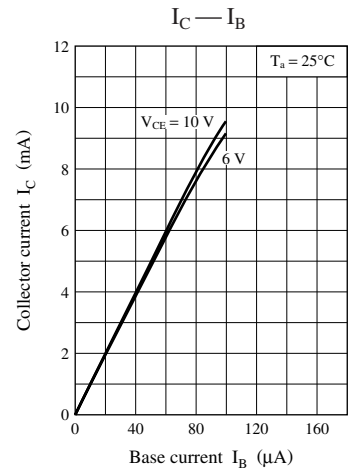
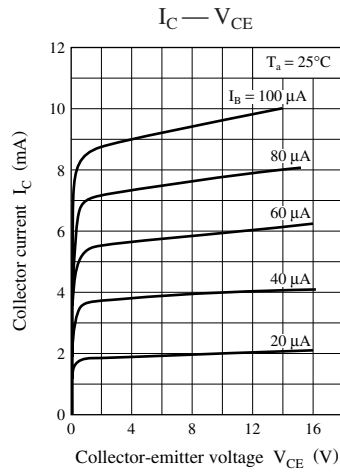
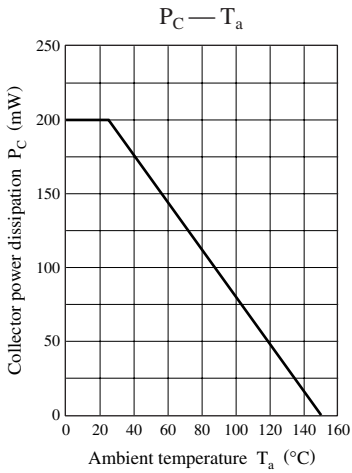
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

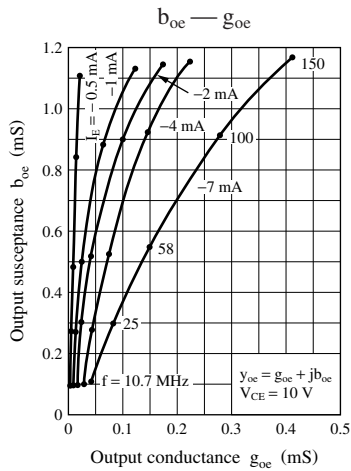
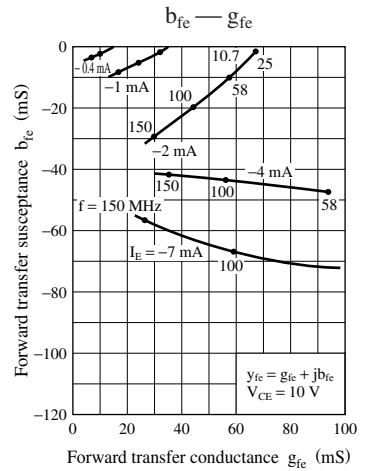
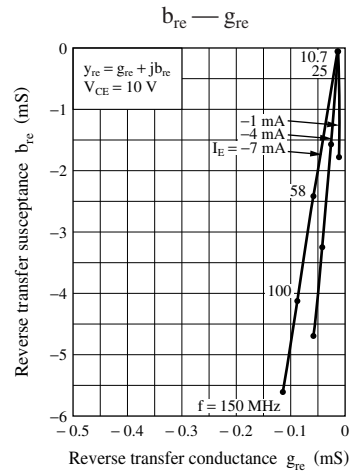
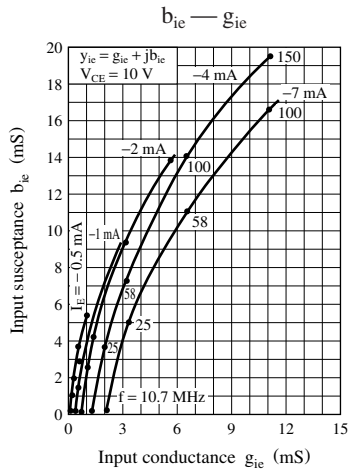
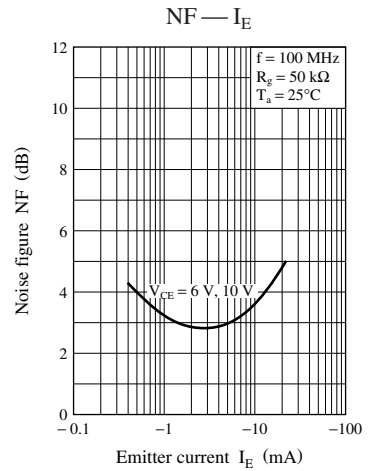
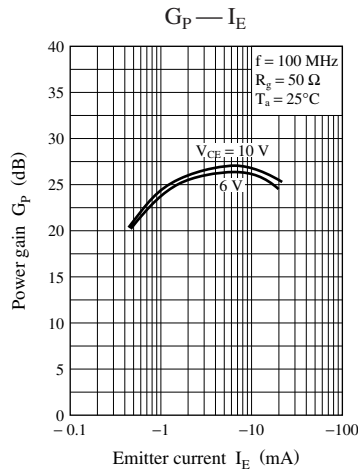
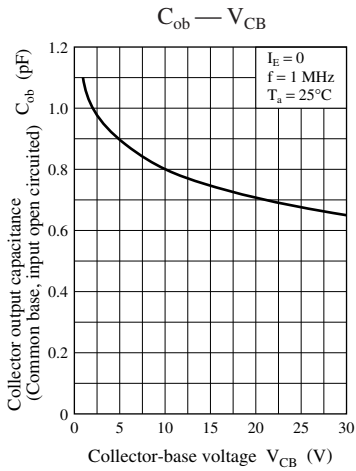
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|-----------|--|-----|-----|-----|---------------|
| Base-emitter voltage | V_{BE} | $V_{CB} = 6\text{ V}, I_E = -1\text{ mA}$ | | 720 | | mV |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = 10\text{ V}, I_E = 0$ | | | 100 | nA |
| Collector-emitter cutoff current (Base open) | I_{CEO} | $V_{CE} = 20\text{ V}, I_B = 0$ | | | 10 | μA |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = 3\text{ V}, I_C = 0$ | | | 1 | μA |
| Forward current transfer ratio * | h_{FE} | $V_{CB} = 6\text{ V}, I_E = -1\text{ mA}$ | 65 | | 260 | — |
| Transition frequency | f_T | $V_{CB} = 6\text{ V}, I_E = -1\text{ mA}, f = 100\text{ MHz}$ | 450 | 650 | | MHz |
| Noise figure | NF | $V_{CB} = 6\text{ V}, I_E = -1\text{ mA}, f = 100\text{ MHz}$ | | 3.3 | 5.0 | dB |
| Power gain | G_P | $V_{CB} = 6\text{ V}, I_E = -1\text{ mA}, f = 100\text{ MHz}$ | 20 | 24 | | dB |
| Reverse transfer capacitance (Common emitter) | C_{re} | $V_{CB} = 6\text{ V}, I_E = -1\text{ mA}, f = 10.7\text{ MHz}$ | | 0.8 | 1.0 | pF |

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

2. *: Rank classification

| Rank | C | D |
|----------|-----------|------------|
| h_{FE} | 65 to 160 | 100 to 260 |





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