

2SA2163

Silicon PNP epitaxial planar type

For high frequency amplification

■ Features

- High transition frequency f_T
- Optimum for high-density mounting and downsizing of the equipment for Ultraminiature leadless package
0.6 mm × 1.0 mm (height 0.39 mm)

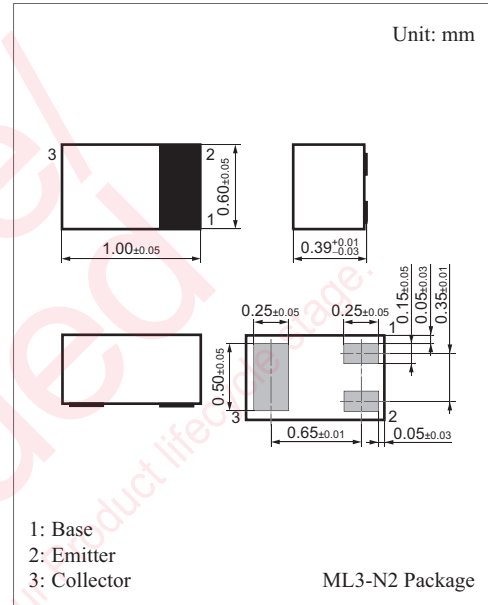
■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| 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} | -5 | V |
| Collector current | I_C | -30 | mA |
| Collector power dissipation | P_C | 100 | mW |
| Junction temperature | T_j | 125 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +125 | $^\circ\text{C}$ |

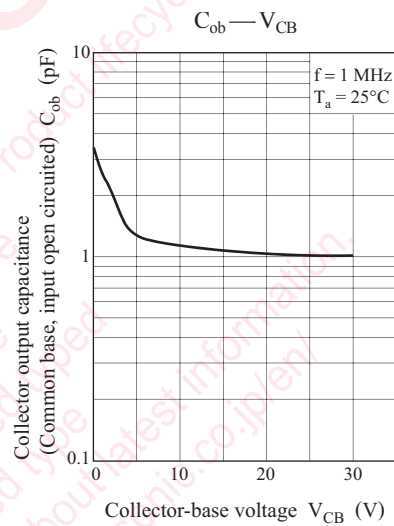
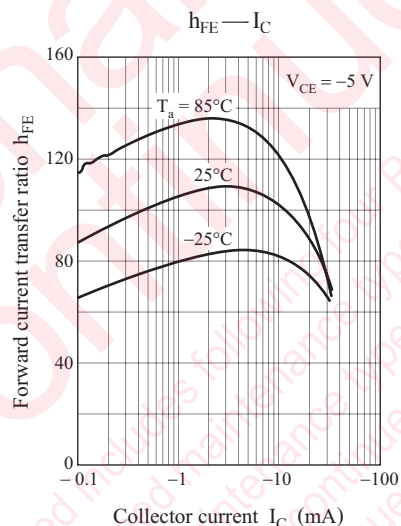
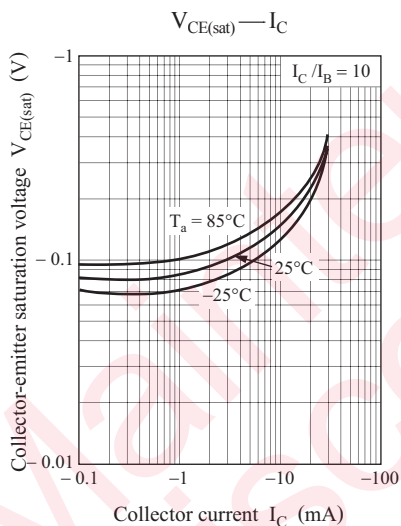
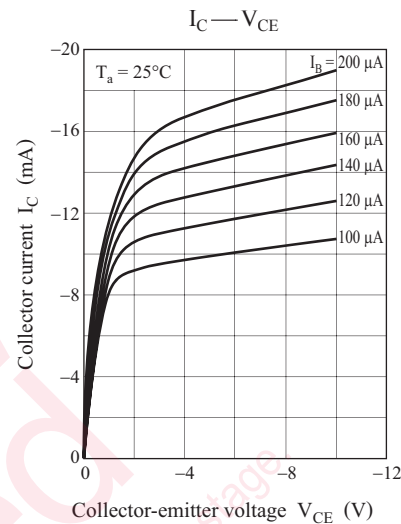
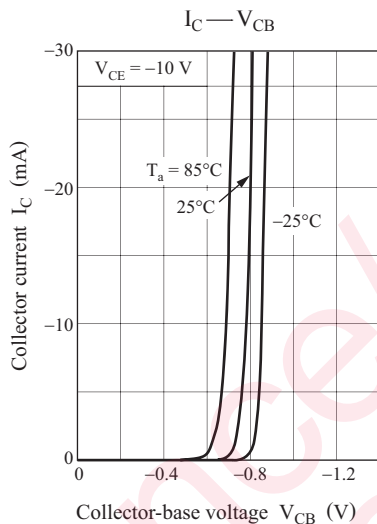
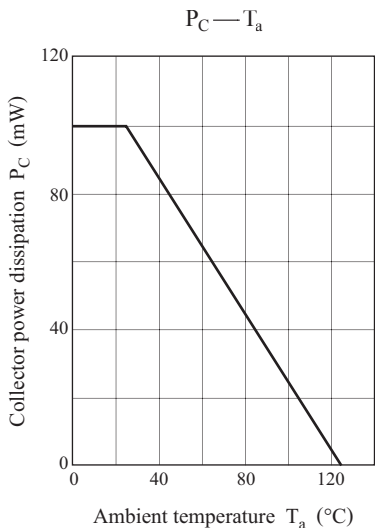
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---------------|---|-----|------|------|---------------|
| Base-emitter voltage | V_{BE} | $V_{CE} = -10\text{ V}, I_C = -1\text{ mA}$ | | -0.7 | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = -10\text{ V}, I_E = 0$ | | | -0.1 | μA |
| Collector-emitter cutoff current (Base open) | I_{CEO} | $V_{CE} = -20\text{ V}, I_B = 0$ | | | -100 | μA |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = -5\text{ V}, I_C = 0$ | | | -10 | μA |
| Forward current transfer ratio | h_{FE} | $V_{CE} = -10\text{ V}, I_C = -1\text{ mA}$ | 70 | | 220 | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -10\text{ mA}, I_B = -1\text{ mA}$ | | -0.1 | | V |
| Transition frequency | f_T | $V_{CB} = -10\text{ V}, I_E = 1\text{ mA}, f = 200\text{ MHz}$ | 150 | 300 | | MHz |
| Noise figure | NF | $V_{CB} = -10\text{ V}, I_E = 1\text{ mA}, f = 5\text{ MHz}$ | | 2.8 | 4.0 | dB |
| Reverse transfer impedance | Z_{rb} | $V_{CB} = -10\text{ V}, I_E = 1\text{ mA}, f = 2\text{ MHz}$ | | 22 | 50 | Ω |
| Reverse transfer capacitance (Common emitter) | C_{re} | $V_{CB} = -10\text{ V}, I_E = 1\text{ mA}, f = 10.7\text{ MHz}$ | | 1.2 | 2.0 | pF |

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



Marking Symbol: 6J



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