

DSC2501

Silicon NPN epitaxial planar type

For low frequency amplification

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

■ Packaging

Embossed type (Thermo-compression sealing): 3000 pcs / reel (standard)

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

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 25 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 20 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | 12 | V |
| Collector current | I_C | 0.5 | A |
| Peak collector current | I_{CP} | 1 | A |
| Collector power dissipation | P_C | 200 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

■ Package

- Code
Mini3-G3-B-B
- Pin Name
 1. Base
 2. Emitter
 3. Collector

■ Marking Symbol: E3

■ 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} | $I_C = 10 \mu\text{A}, I_E = 0$ | 25 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 1 \text{ mA}, I_B = 0$ | 20 | | | V |
| Emitter-base voltage (Collector open) | V_{EBO} | $I_E = 10 \mu\text{A}, I_C = 0$ | 12 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = 25 \text{ V}, I_E = 0$ | | | 100 | nA |
| Forward current transfer ratio *2 | h_{FE} | $V_{CE} = 2 \text{ V}, I_C = 0.5 \text{ A}$ | 200 | | 800 | — |
| Collector-emitter saturation voltage *1 | $V_{CE(sat)}$ | $I_C = 0.5 \text{ A}, I_B = 20 \text{ mA}$ | | 0.18 | 0.40 | V |
| Base-emitter saturation voltage *1 | $V_{BE(sat)}$ | $I_C = 0.5 \text{ A}, I_B = 50 \text{ mA}$ | | | 1.2 | V |
| Transition frequency | f_T | $V_{CE} = 10 \text{ V}, I_C = 50 \text{ mA}$ | | 150 | | MHz |
| Collector output capacitance (Common base, input open circuited) | C_{ob} | $V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ | | 6 | | pF |
| ON resistance *3 | R_{on} | | | 1.0 | | Ω |

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

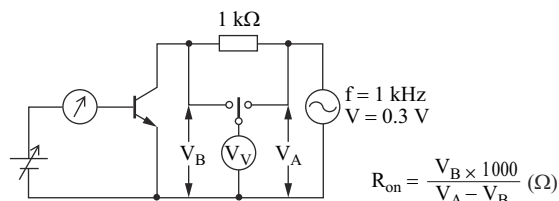
2. *1: Pulse measurement

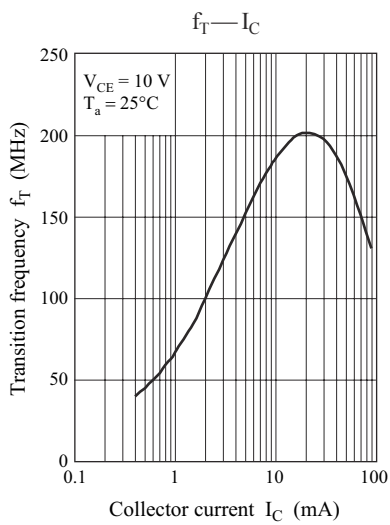
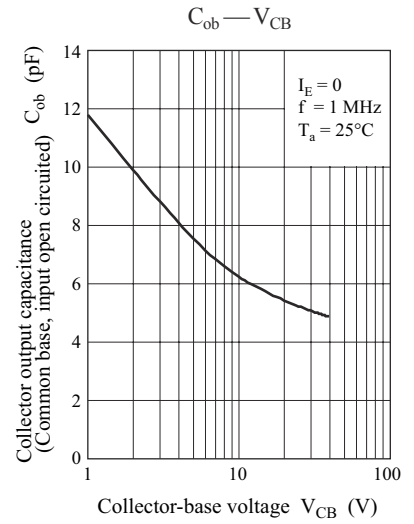
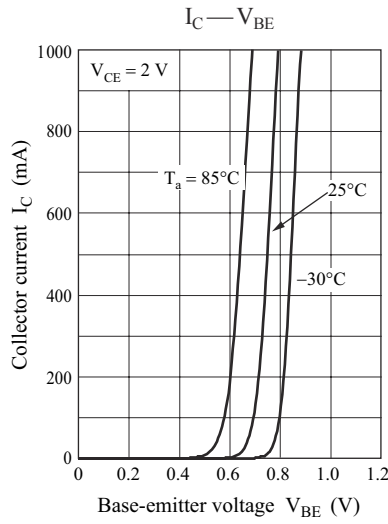
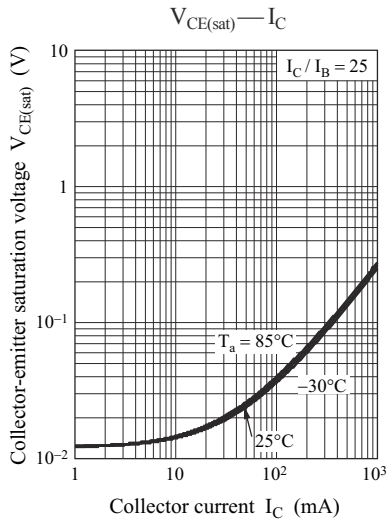
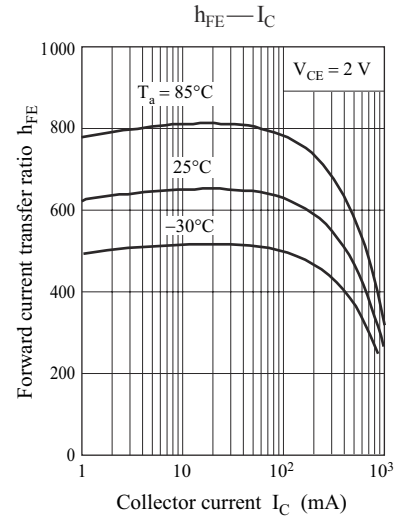
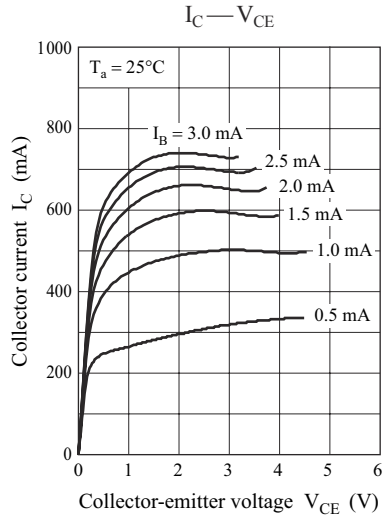
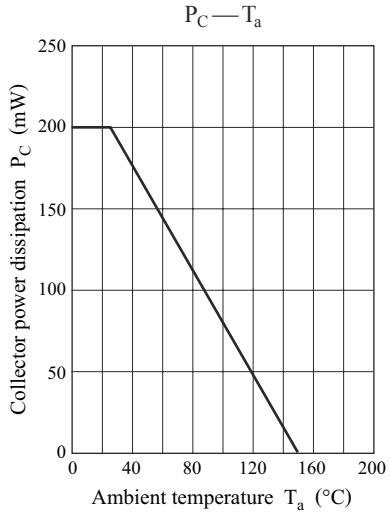
*2: Rank classification

| Code | R | S | T | 0 |
|----------------|------------|------------|------------|------------|
| Rank | R | S | T | No-rank |
| h_{FE} | 200 to 350 | 300 to 500 | 400 to 800 | 200 to 800 |
| Marking Symbol | E3R | E3S | E3T | E3 |

Product of no-rank is not classified and have no marking symbol for rank.

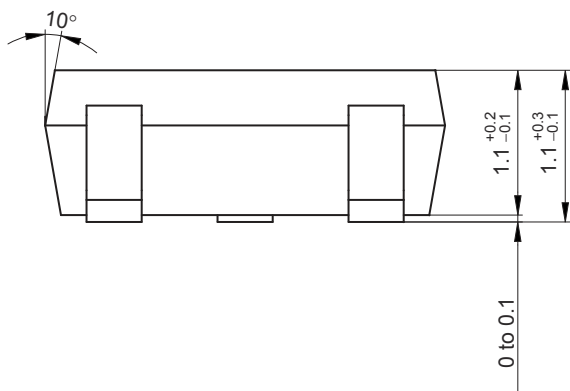
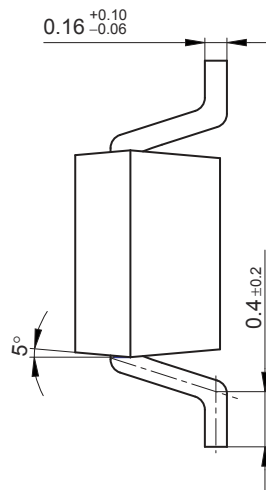
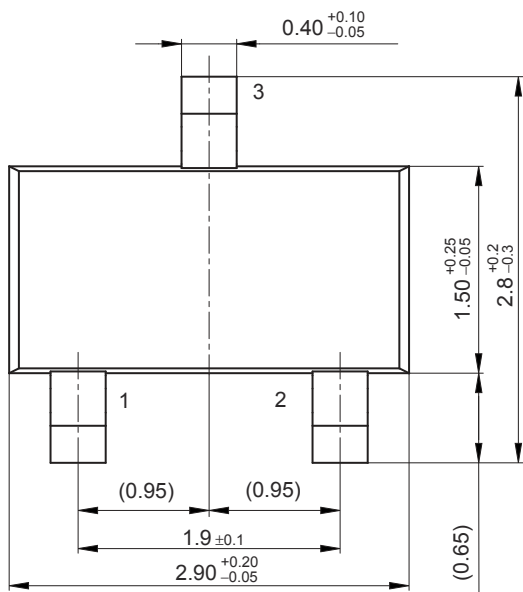
*3: R_{on} measurement circuit





Mini3-G3-B-B

Unit: mm



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