

2SD2441

Silicon NPN epitaxial planar type

For low-frequency output amplification

■ Features

- Mini Power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing

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

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|------------------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 10 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 10 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | 7 | V |
| Collector current | I_{C} | 1.5 | A |
| Peak collector current | I_{CP} | 2 | A |
| Collector power dissipation * | P_{C} | 1 | W |
| Junction temperature | T_{j} | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

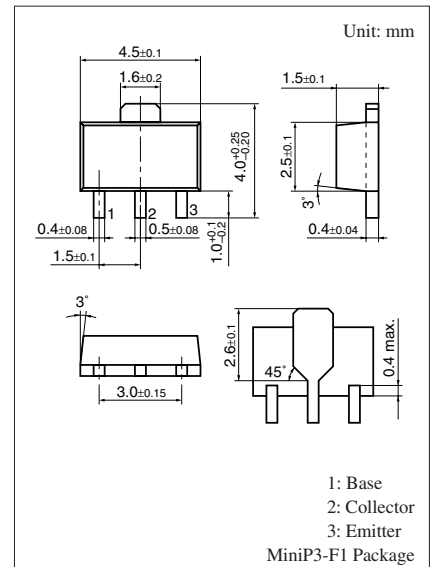
Note) *: Printed circuit board: Copper foil area of 1 cm² or more, and the board thickness of 1.7 mm for the collector portion

■ 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} | $I_{\text{C}} = 10 \mu\text{A}$, $I_{\text{E}} = 0$ | 10 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_{\text{C}} = 1 \text{ mA}$, $I_{\text{B}} = 0$ | 10 | | | V |
| Emitter-base voltage (Collector open) | V_{EBO} | $I_{\text{E}} = 10 \mu\text{A}$, $I_{\text{C}} = 0$ | 7 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{\text{CB}} = 7 \text{ V}$, $I_{\text{E}} = 0$ | | | 1 | μA |
| Forward current transfer ratio | h_{FE} | $V_{\text{CE}} = 1 \text{ V}$, $I_{\text{C}} = 400 \text{ mA}$ | 200 | | 700 | — |
| Collector-emitter saturation voltage | $V_{\text{CE(sat)}}$ | $I_{\text{C}} = 1 \text{ A}$, $I_{\text{B}} = 25 \text{ mA}$ | | 0.17 | 0.25 | V |
| Transition frequency | f_{T} | $V_{\text{CB}} = 6 \text{ V}$, $I_{\text{E}} = -50 \text{ mA}$, $f = 200 \text{ MHz}$ | | 190 | | MHz |
| Collector output capacitance (Common base, input open circuited) | C_{ob} | $V_{\text{CB}} = 10 \text{ V}$, $I_{\text{E}} = 0$, $f = 1 \text{ MHz}$ | | 50 | | pF |
| Forward voltage * | V_{F} | $I_{\text{F}} = 500 \text{ mA}$ | | | 1.3 | pF |

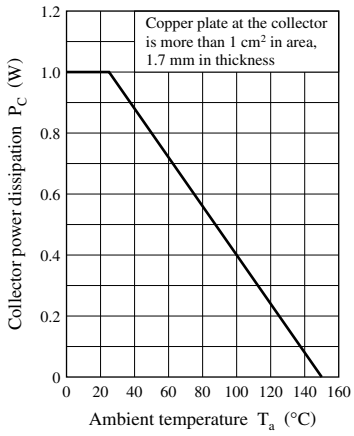
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Applicable to the built-in diode.

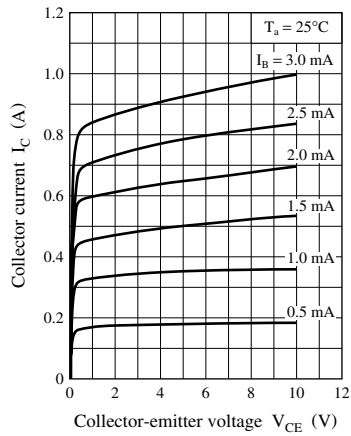


Marking Symbol: 1V

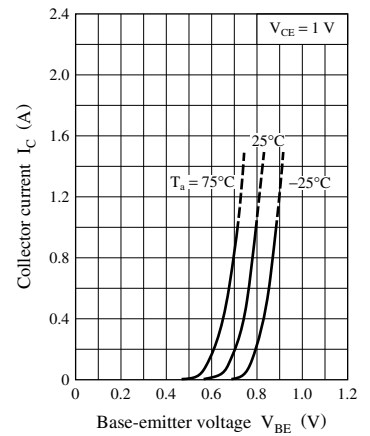
$P_C - T_a$



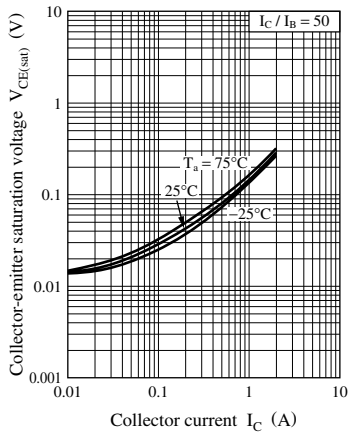
$I_C - V_{CE}$



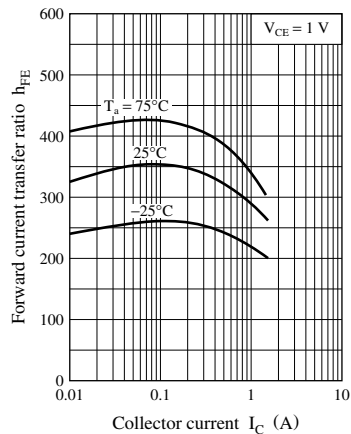
$V_{CE(sat)} - I_C$



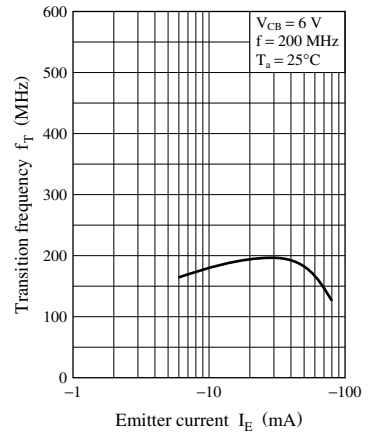
$V_{BE(sat)} - I_C$



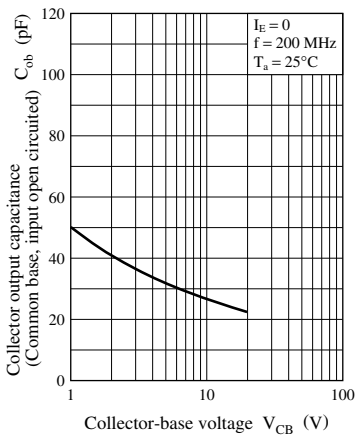
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



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