

2SB1678

Silicon PNP epitaxial planer type

For low-frequency amplification

■ Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Large Peak collector current I_{CP}
- Mini power type package, allowing downsizing and thinning of the equipment and automatic insertion through the tape packing

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

| Parameter | Symbol | Rating | Unit |
|-------------------------------|-----------|-------------|------------------|
| Collector to base voltage | V_{CBO} | -30 | V |
| Collector to emitter voltage | V_{CEO} | -20 | V |
| Emitter to base voltage | V_{EBO} | -7 | V |
| Peak collector current | I_{CP} | -5 | A |
| Collector current | I_C | -3 | 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 for collector portion

area: 1.0 Cm^2 or more, thickness: 1.7 mm

Absolute maximum rating P_C Without heat sink shall be 0.5 W

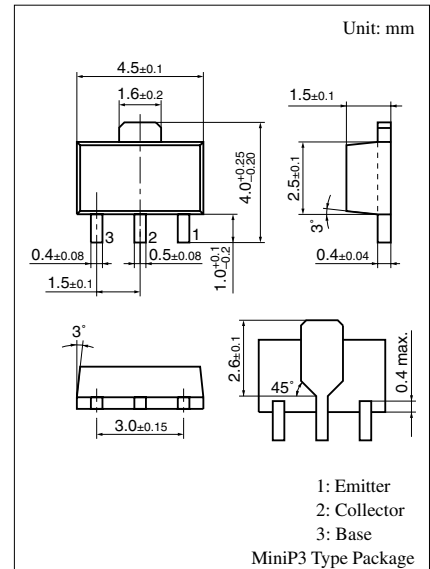
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|--|---------------|--|-----|-----|------|------|
| Collector cutoff current | I_{CBO} | $V_{CB} = -10\text{ V}, I_E = 0$ | | | -100 | nA |
| Emitter cutoff current | I_{EBO} | $V_{EB} = -5\text{ V}, I_C = 0$ | | | -100 | nA |
| Collector to emitter voltage | V_{CEO} | $I_C = -1\text{ mA}, I_B = 0$ | -20 | | | V |
| Emitter to base voltage | V_{EBO} | $I_E = -10\text{ }\mu\text{A}, I_C = 0$ | -7 | | | V |
| Forward current transfer ratio *1, 2 | h_{FE} | $V_{CE} = -2\text{ V}, I_C = 200\text{ mA}$ | 90 | | 625 | |
| Collector to emitter saturation voltage *1 | $V_{CE(sat)}$ | $I_C = -3\text{ A}, I_B = -0.1\text{ A}$ | | | -1 | V |
| Collector output capacitance | C_{ob} | $V_{CB} = -20\text{ V}, I_E = 0, f = 1\text{ MHz}$ | | | 85 | pF |
| Transition frequency | f_T | $V_{CB} = -6\text{ V}, I_E = 50\text{ mA}, f = 200\text{ MHz}$ | | 120 | | MHz |

Note) *1: Pulse measurement

*2: Rank classification

| Rank | P | Q | R |
|----------|-----------|------------|------------|
| h_{FE} | 90 to 135 | 120 to 205 | 180 to 625 |



Marking Symbol: 2K

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