

## Silicon PNP epitaxial planer type

Complementary to 2SD2177

- Low collector to emitter saturation voltage  $V_{CE(sat)}$
- Allowing supply with the radial tapping

| Parameter                     | Symbol    | Rating      | Unit |
|-------------------------------|-----------|-------------|------|
| Collector to base voltage     | $V_{CBO}$ | -50         | V    |
| Collector to emitter voltage  | $V_{CEO}$ | -50         | V    |
| Emitter to base voltage       | $V_{EBO}$ | -5          | V    |
| Peak collector current        | $I_{CP}$  | -3          | A    |
| Collector current             | $I_C$     | -2          | A    |
| Collector power dissipation * | $P_C$     | 1           | W    |
| Junction temperature          | $T_j$     | 150         | °C   |
| Storage temperature           | $T_{stg}$ | -55 to +150 | °C   |

Unit: mm

Top View Dimensions: 6.9±0.1, 0.7, 4.0, 1.05±0.05, 2.5±0.1 (1.45), 0.8, 0.15, 0.2, 1.0±0.1, 0.65 max., 0.45±0.1, 0.45±0.05, 2.5±0.5, 2.5±0.5, 0.45±0.1, 2.5±0.1.

Side View Dimensions: 14.5±0.5, 4.5±0.1, 0.5.

Front View Dimensions: 1, 2, 3, 0.45±0.1, 2.5±0.1.

Note) In addition to the lead type shown in the upper figure, the type as shown in the lower figure is also available.

1: Emitter  
2: Collector  
3: Base

MT2 Type Package

Lower Figure Dimensions: 1.2±0.1, 0.65 max., 0.45±0.1.

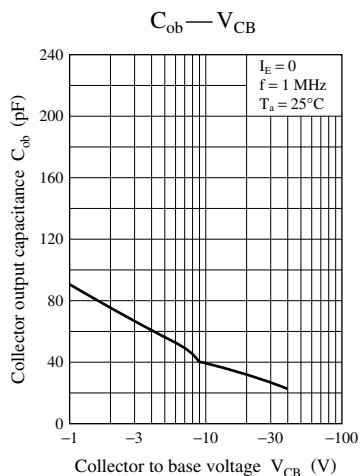
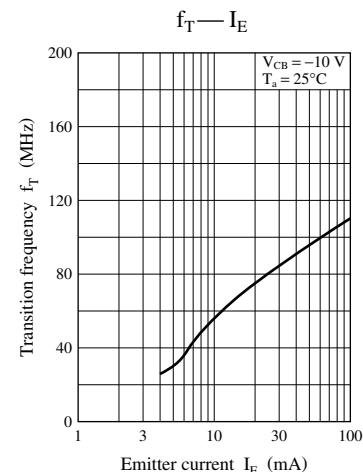
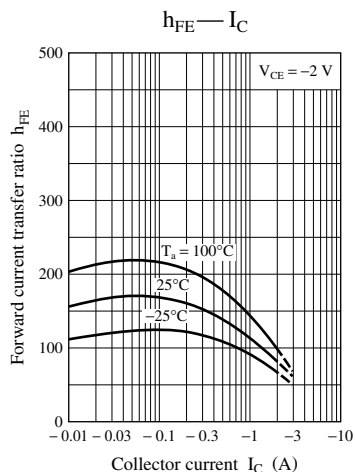
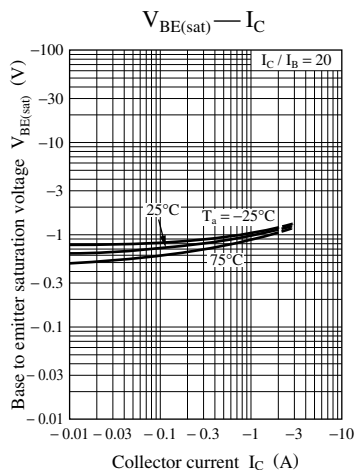
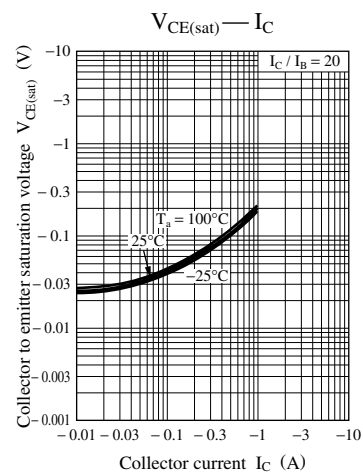
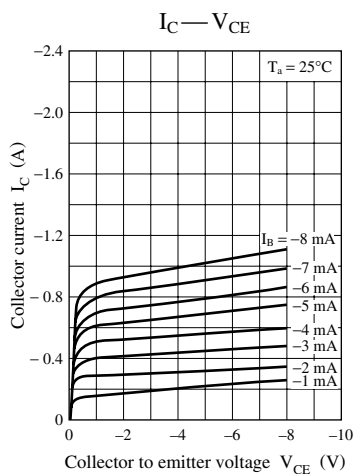
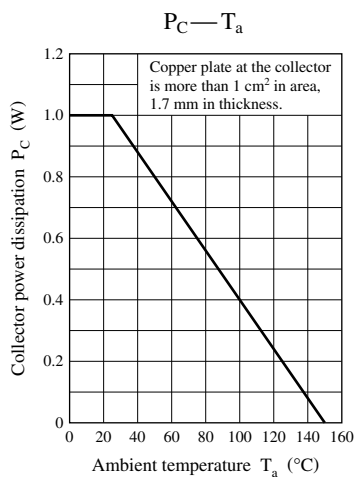
(HW Type)

| Parameter                                             | Symbol                  | Conditions                                                      | Min   | Typ     | Max    | Unit          |
|-------------------------------------------------------|-------------------------|-----------------------------------------------------------------|-------|---------|--------|---------------|
| Collector cutoff current                              | $I_{CBO}$               | $V_{CB} = -20\text{ V}, I_E = 0$                                |       |         | $-0.1$ | $\mu\text{A}$ |
| Collector to base voltage                             | $V_{CBO}$               | $I_C = -10\text{ }\mu\text{A}, I_E = 0$                         | $-50$ |         |        | $\text{V}$    |
| Collector to emitter voltage                          | $V_{CEO}$               | $I_C = -1\text{ mA}, I_B = 0$                                   | $-50$ |         |        | $\text{V}$    |
| Emitter to base voltage                               | $V_{EBO}$               | $I_E = -10\text{ }\mu\text{A}, I_C = 0$                         | $-5$  |         |        | $\text{V}$    |
| Forward current transfer ratio <sup>*1</sup>          | $h_{FE1}$ <sup>*2</sup> | $V_{CE} = -2\text{ V}, I_C = -200\text{ mA}$                    | 120   |         | 340    |               |
|                                                       | $h_{FE2}$               | $V_{CE} = -2\text{ V}, I_C = -1\text{ A}$                       | 60    |         |        |               |
| Collector to emitter saturation voltage <sup>*1</sup> | $V_{CE(sat)}$           | $I_C = -1\text{ A}, I_B = -50\text{ mA}$                        |       | $-0.2$  | $-0.3$ | $\text{V}$    |
| Base to emitter saturation voltage <sup>*1</sup>      | $V_{BE(sat)}$           | $I_C = -1\text{ A}, I_B = -50\text{ mA}$                        |       | $-0.85$ | $-1.2$ | $\text{V}$    |
| Transition frequency                                  | $f_T$                   | $V_{CB} = -10\text{ V}, I_E = 50\text{ mA}, f = 200\text{ MHz}$ |       | 110     |        | $\text{MHz}$  |
| Collector output capacitance                          | $C_{ob}$                | $V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$              |       | 40      | 60     | $\text{pF}$   |

\*2: Rank classification

| Rank      | R          | S          | No-rank    |
|-----------|------------|------------|------------|
| $h_{FE1}$ | 120 to 240 | 170 to 340 | 120 to 340 |

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



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