

# 2SC4985

Silicon NPN triple diffusion planar type

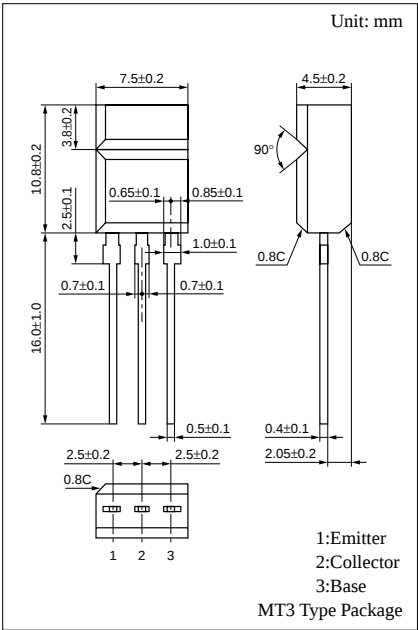
For high breakdown voltage high-speed switching

## Features

- High collector to base voltage  $V_{CBO}$
- High collector to emitter  $V_{CEO}$
- Allowing automatic insertion with radial taping

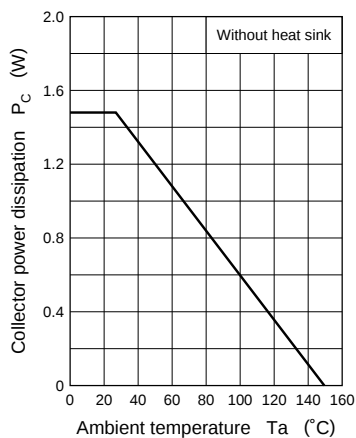
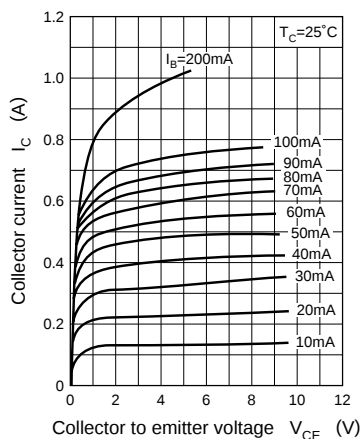
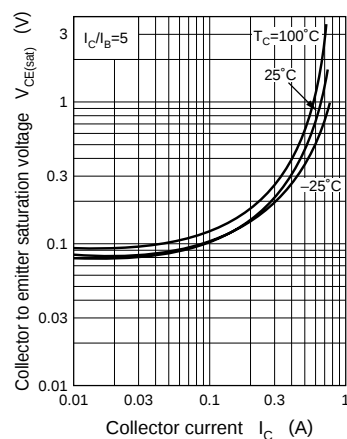
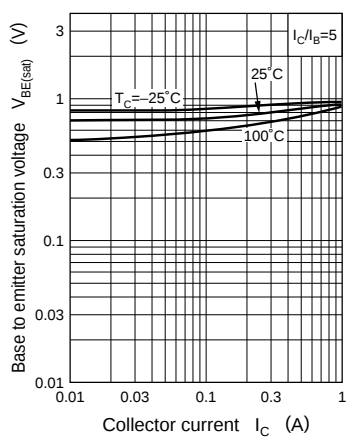
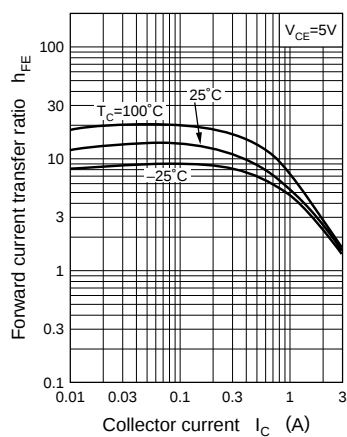
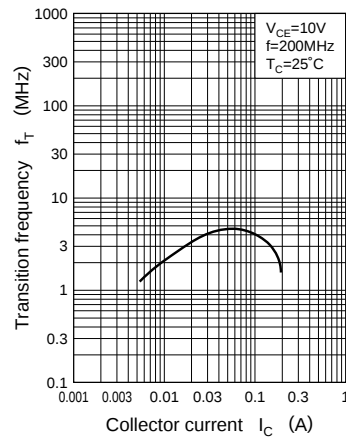
## Absolute Maximum Ratings ( $T_a=25^{\circ}\text{C}$ )

| Parameter                    | Symbol    | Ratings     | Unit               |
|------------------------------|-----------|-------------|--------------------|
| Collector to base voltage    | $V_{CBO}$ | 900         | V                  |
| Collector to emitter voltage | $V_{CEO}$ | 800         | V                  |
| Emitter to base voltage      | $V_{EBO}$ | 7           | V                  |
| Peak collector current       | $I_{CP}$  | 2           | A                  |
| Collector current            | $I_C$     | 1           | A                  |
| Collector power dissipation  | $P_C$     | 1.5         | W                  |
| Junction temperature         | $T_j$     | 150         | $^{\circ}\text{C}$ |
| Storage temperature          | $T_{stg}$ | -55 to +150 | $^{\circ}\text{C}$ |



## Electrical Characteristics ( $T_a=25^{\circ}\text{C}$ )

| Parameter                               | Symbol        | Conditions                                                                              | min | typ | max | Unit          |
|-----------------------------------------|---------------|-----------------------------------------------------------------------------------------|-----|-----|-----|---------------|
| Collector cutoff current                | $I_{CBO}$     | $V_{CB} = 900\text{V}, I_E = 0$                                                         |     |     | 50  | $\mu\text{A}$ |
| Emitter cutoff current                  | $I_{EBO}$     | $V_{EB} = 7\text{V}, I_C = 0$                                                           |     |     | 50  | $\mu\text{A}$ |
| Collector to emitter voltage            | $V_{CEO}$     | $I_C = 1\text{mA}, I_B = 0$                                                             | 800 |     |     | V             |
| Forward current transfer ratio          | $h_{FE1}$     | $V_{CE} = 5\text{V}, I_C = 50\text{mA}$                                                 | 6   |     |     |               |
|                                         | $h_{FE2}$     | $V_{CE} = 5\text{V}, I_C = 500\text{mA}$                                                | 3   |     |     |               |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 200\text{mA}, I_B = 40\text{mA}$                                                 |     |     | 1.5 | V             |
| Base to emitter saturation voltage      | $V_{BE(sat)}$ | $I_C = 200\text{mA}, I_B = 40\text{mA}$                                                 |     |     | 1   | V             |
| Transition frequency                    | $f_T$         | $V_{CB} = 10\text{V}, I_E = -50\text{mA}, f = 200\text{MHz}$                            |     | 80  |     | MHz           |
| Turn-on time                            | $t_{on}$      | $I_C = 200\text{mA}, I_{B1} = 40\text{mA}, I_{B2} = -80\text{mA}, V_{CC} = 250\text{V}$ |     |     | 1   | $\mu\text{s}$ |
| Storage time                            | $t_{stg}$     |                                                                                         |     |     | 3   | $\mu\text{s}$ |
| Fall time                               | $t_f$         |                                                                                         |     |     | 1   | $\mu\text{s}$ |

$P_C - T_a$  $I_C - V_{CE}$  $V_{CE(sat)} - I_C$  $V_{BE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_C$ 

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