2SC3506

Silicon NPN triple diffusion planar type

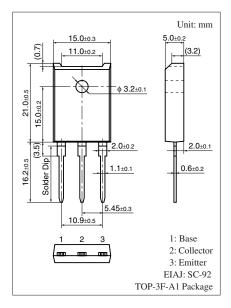
For high-speed switching

Features

- High-speed switching
- \bullet High collector-base voltage (Emitter open) V_{CBO}
- \bullet Satisfactory linearity of forward current transfer ratio h_{FE}
- Full-pack package which can be installed to the heat sink with one screw

| Parameter | | Symbol | Rating | Unit | | | | | |
|---------------------------------------|---------------------|------------------|-------------|------|--|--|--|--|--|
| Collector-base voltage (Emitter open) | | V _{CBO} | 1 000 | V | | | | | |
| Collector-emitter voltage (E-B short) | | V _{CES} | 1 000 | V | | | | | |
| Collector-emitter voltage (| V _{CEO} | 800 | V | | | | | | |
| Emitter-base voltage (Collector open) | | V _{EBO} | 7 | V | | | | | |
| Collector current | | I _C | 3 | А | | | | | |
| Base current | | IB | 2 | А | | | | | |
| Peak collector current | | I _{CP} | 6 | А | | | | | |
| Collector power dissipation | | P _C | 70 | W | | | | | |
| | $T_a = 25^{\circ}C$ | | 3.0 | | | | | | |
| Junction temperature | | Tj | 150 | °C | | | | | |
| Storage temperature | | T _{stg} | -55 to +150 | °C | | | | | |

Absolute Maximum Ratings $T_C = 25^{\circ}C$

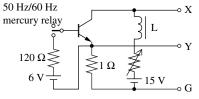


\blacksquare Electrical Characteristics $T_C = 25^{\circ}C \pm 3^{\circ}C$

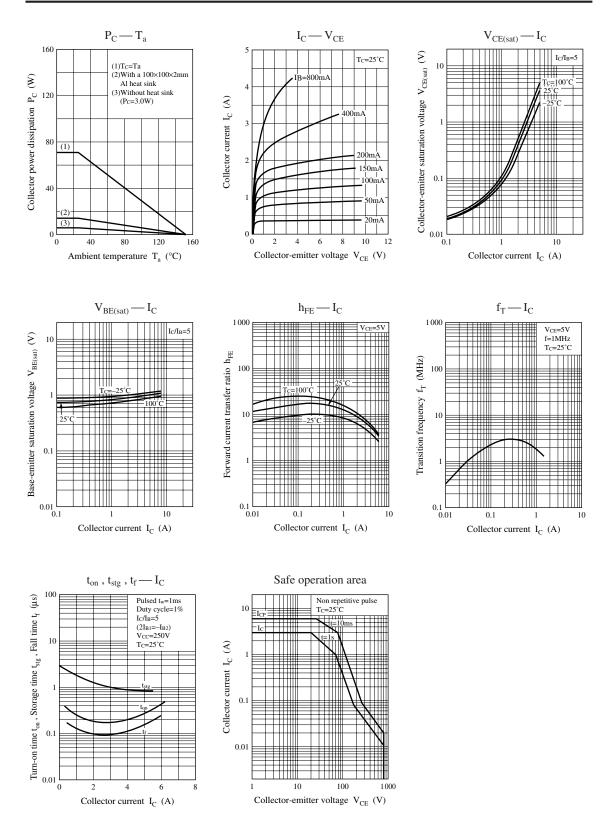
| Parameter | Symbol | Conditions | Min | Тур | Max | Unit |
|--|-----------------------|--|-----|-----|-----|------|
| Collector-emitter sustaining voltage * | V _{CEO(SUS)} | $I_C = 0.5 \text{ A}, L = 50 \text{ mH}$ | 800 | | | V |
| Collector-base cutoff current (Emitter open) | I _{CBO} | $V_{CB} = 1000$ V, $I_E = 0$ | | | 50 | μΑ |
| Emitter-base cutoff current (Collector open) | I _{EBO} | $V_{EB} = 7 V, I_C = 0$ | | | 50 | μΑ |
| Forward current transfer ratio | h _{FE} | $V_{CE} = 5 V, I_C = 2 A$ | 6 | | | |
| Collector-emitter saturation voltage | V _{CE(sat)} | $I_{\rm C} = 2 \text{ A}, I_{\rm B} = 0.4 \text{ A}$ | | | 1.5 | V |
| Base-emitter saturation voltage | V _{BE(sat)} | $I_{\rm C} = 2 \text{ A}, I_{\rm B} = 0.4 \text{ A}$ | | | 1.5 | V |
| Transition frequency | f _T | $V_{CE} = 5 V, I_C = 0.2 A, f = 1 MHz$ | | 4 | | MHz |
| Turn-on time | t _{on} | $I_C = 2 A$ | | | 1 | μs |
| Storage time | t _{stg} | $I_{B1} = 0.4 \text{ A}, I_{B2} = -0.8 \text{ A}$ | | | 2.5 | μs |
| Fall time | t _f | $V_{CC} = 250 \text{ V}$ | | | 0.5 | μs |

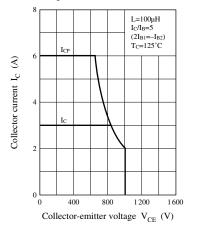
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: V_{CEO(SUS)} test circuit 50



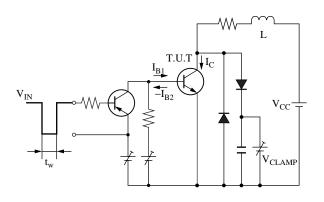
Panasonic

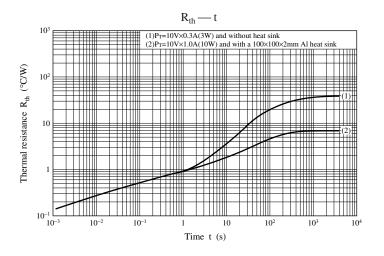




Safe operation area (Reverse bias)

Safe operation area (Reverse bias) measurement circuit





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