

# 2SC3496, 2SC3496A

## Silicon PNP Triple-Diffused Planar Type

### Power Switching

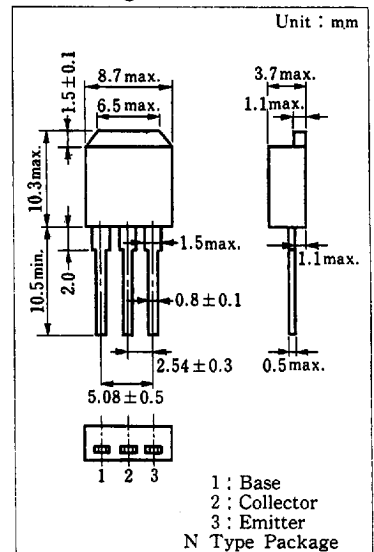
#### ■ Features

- High speed switching
- High collector-base voltage ( $V_{CB0}$ )
- Good linearity of DC current gain ( $h_{FE}$ )
- "N Type" package configuration with a cooling fin for direct soldering on PC board of a small-size electronic equipment

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

| Item                        | Symbol                 | Value           | Unit             |
|-----------------------------|------------------------|-----------------|------------------|
| Collector-base voltage      | 2SC3496                | 900             | V                |
|                             | 2SC3496A               | 900             |                  |
| Collector-emitter voltage   | $V_{CES}$              | 900             | V                |
| Collector-emitter voltage   | 2SC3496                | 800             |                  |
| Collector-emitter voltage   | 2SC3496A               | 900             | V                |
| Emitter-base voltage        | $V_{EBO}$              | 7               | V                |
| Peak collector current      | $I_{CP}$               | 2               | A                |
| Collector current           | $I_C$                  | 1               | A                |
| Base current                | $I_B$                  | 0.3             | A                |
| Collector power dissipation | $T_c=25^\circ\text{C}$ | 30              | W                |
|                             | $T_a=25^\circ\text{C}$ | 1.3             |                  |
| Junction temperature        | $T_j$                  | 150             | $^\circ\text{C}$ |
| Storage temperature         | $T_{stg}$              | $-55 \sim +150$ | $^\circ\text{C}$ |

#### ■ Package Dimensions

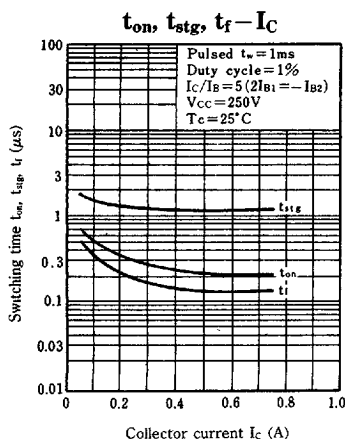
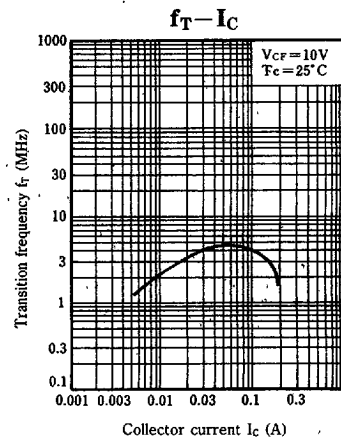
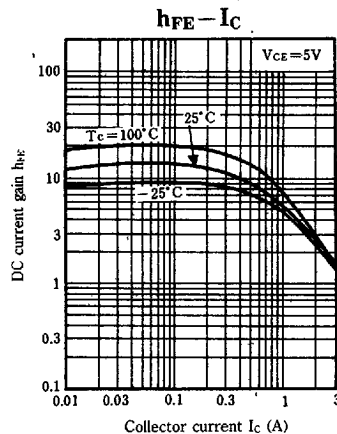
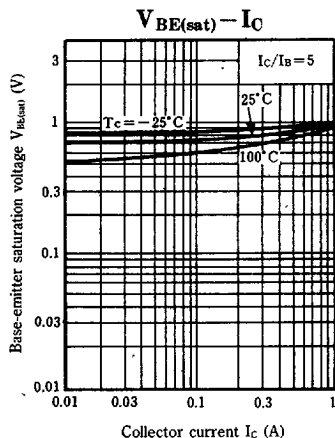
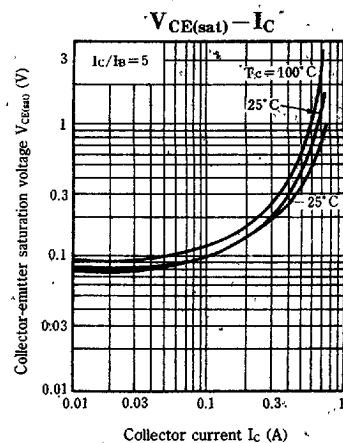
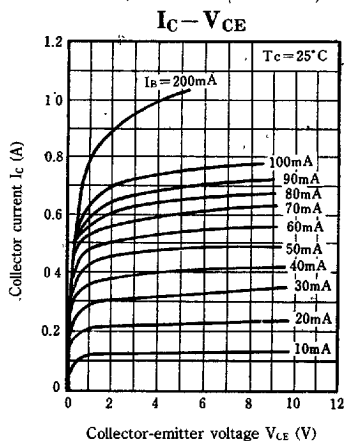
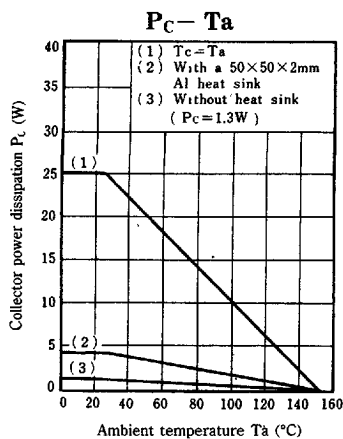


\*Surface-mount type is also available.  
(Refer to p.82.)

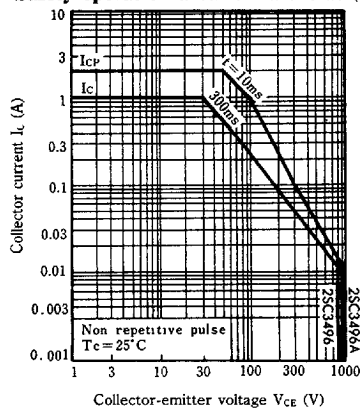
#### ■ Electrical Characteristics ( $T_c=25^\circ\text{C}$ )

| Item                                 | Symbol        | Condition                                               | min. | typ. | max. | Unit          |
|--------------------------------------|---------------|---------------------------------------------------------|------|------|------|---------------|
| Collector cutoff current             | $I_{CBO}$     | $V_{CB}=900\text{ V}, I_E=0$                            |      |      | 50   | $\mu\text{A}$ |
| Emitter cutoff current               | $I_{ERO}$     | $V_{EB}=7\text{ V}, I_C=0$                              |      |      | 50   | $\mu\text{A}$ |
| Collector-emitter voltage            | $V_{CEO}$     | $I_C=1\text{ mA}, I_B=0$                                | 800  |      |      | V             |
|                                      |               | $I_C=1\text{ mA}, I_B=0$                                | 900  |      |      |               |
| DC current gain                      | $h_{FE1}$     | $V_{CE}=5\text{ V}, I_C=0.05\text{ A}$                  | 6    |      |      |               |
|                                      | $h_{FE2}$     | $V_{CE}=5\text{ V}, I_C=0.5\text{ A}$                   | 3    |      |      |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=0.2\text{ A}, I_B=0.04\text{ A}$                   |      |      | 1.5  | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C=0.2\text{ A}, I_B=0.04\text{ A}$                   |      |      | 1    | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=10\text{ V}, I_C=0.05\text{ A}, f=1\text{ MHz}$ |      | 4    |      | MHz           |
| Turn-on time                         | $t_{on}$      | $I_C=0.2\text{ A}$                                      |      |      | 1    | $\mu\text{s}$ |
| Storage time                         | $t_{stg}$     | $I_{B1}=0.04\text{ A}, I_{B2}=-0.08\text{ A}$           |      |      | 3    | $\mu\text{s}$ |
| Fall time                            | $t_f$         | $V_{CC}=250\text{ V}$                                   |      |      | 1    | $\mu\text{s}$ |

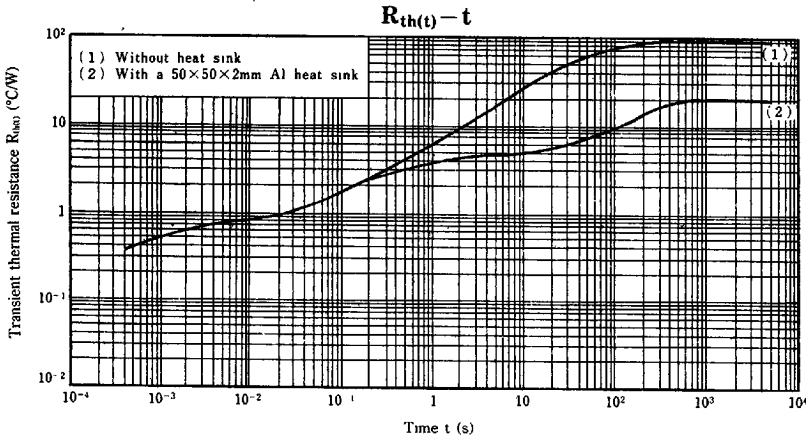
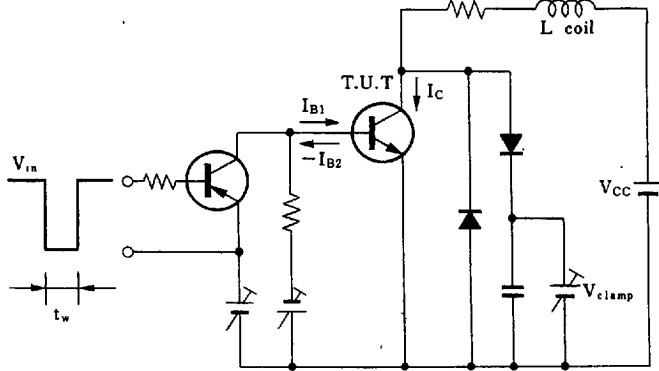
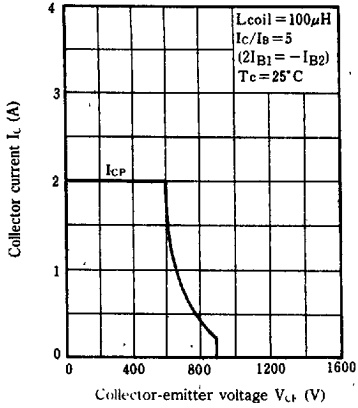
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### Safety operation area-forward bias (ASO)



## Safety operation area-reverse bias (ASO) Measurement circuit of reverse bias ASO



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