

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

# 2SC5307

HIGH VOLTAGE SWITCHING APPLICATIONS

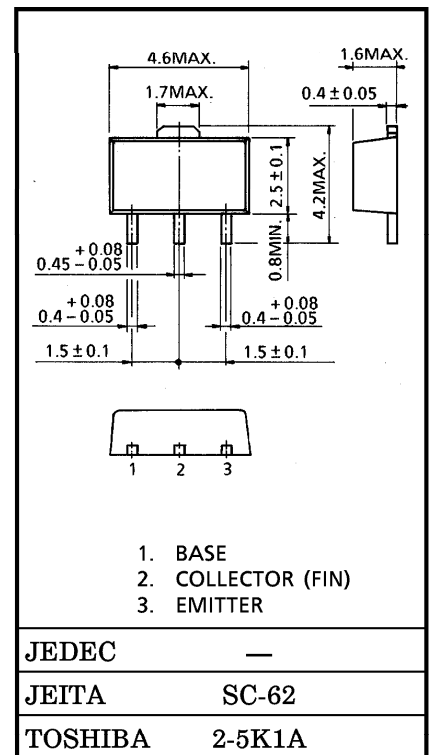
Unit in mm

- High Voltage :  $V_{CEO} = 400V$
- Low Saturation Voltage  
:  $V_{CE(sat)} = 0.4V$  (Typ.) ( $I_C = 20mA, I_B = 0.5mA$ )

MAXIMUM RATINGS ( $T_a = 25^\circ C$ )

| CHARACTERISTIC            |                           | SYMBOL    | RATING  | UNIT       |
|---------------------------|---------------------------|-----------|---------|------------|
| Collector-Base Voltage    |                           | $V_{CBO}$ | 400     | V          |
| Collector-Emitter Voltage |                           | $V_{CEO}$ | 400     | V          |
| Emitter-Base Voltage      |                           | $V_{EBO}$ | 7       | V          |
| Collector Current         | DC                        | $I_C$     | 50      | mA         |
|                           | Pulse                     | $I_{CP}$  | 100     |            |
| Base Current              |                           | $I_B$     | 25      | mA         |
| Collector Power           | $T_a = 25^\circ C$        | $P_C$     | 500     | mW         |
| Dissipation               | $T_a = 25^\circ C$ (Note) |           | 1000    |            |
| Junction Temperature      |                           | $T_j$     | 150     | $^\circ C$ |
| Storage Temperature Range |                           | $T_{stg}$ | -55~150 | $^\circ C$ |

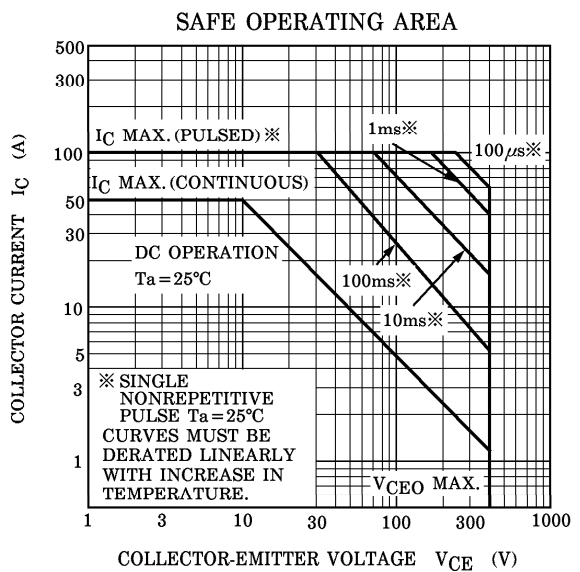
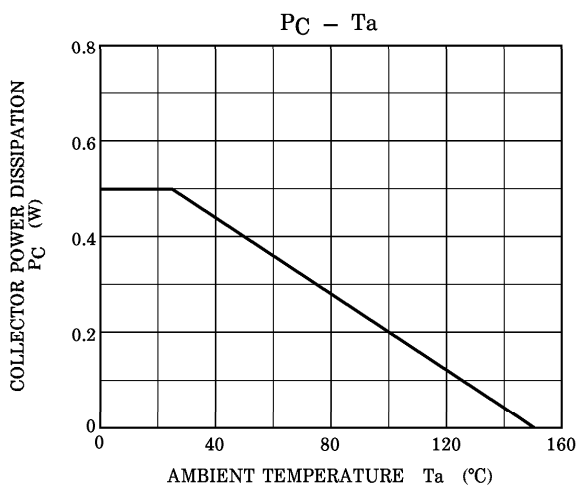
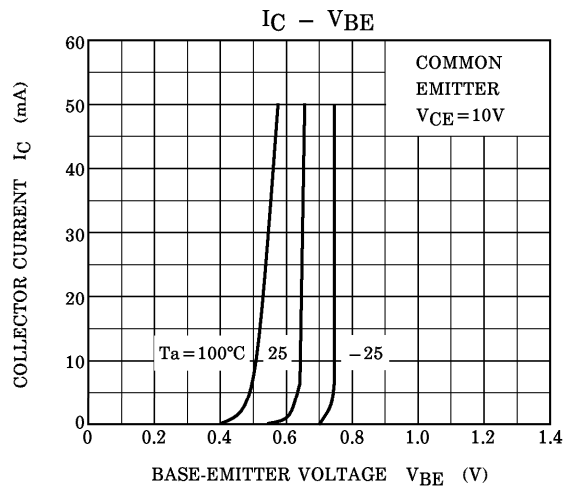
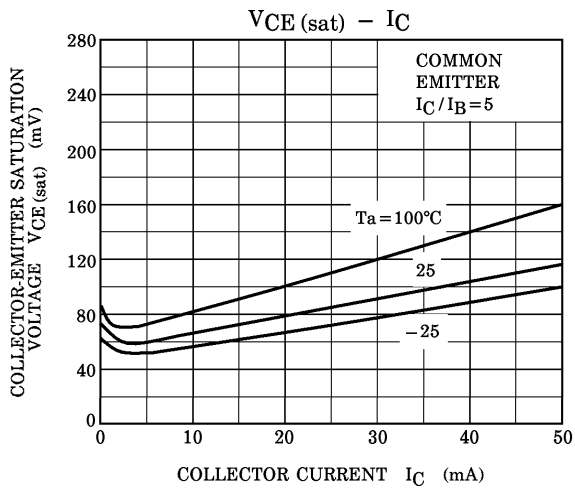
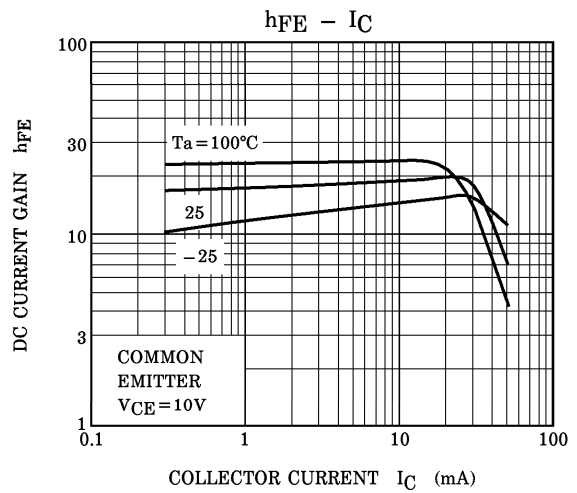
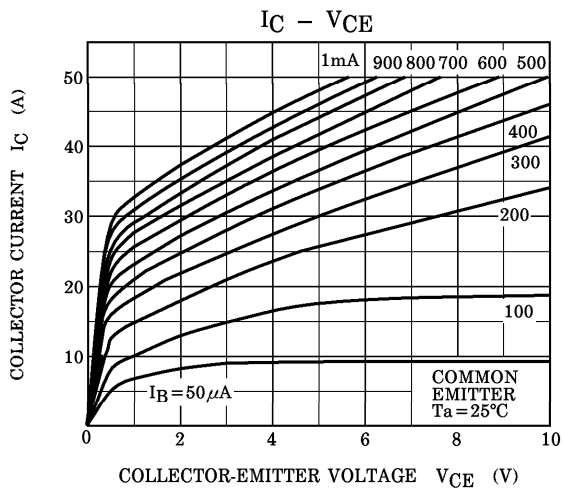
(Note) : Mounted on Ceramic Substrate (250mm<sup>2</sup>×0.8t)



Weight : 0.05g (Typ.)

ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

| CHARACTERISTIC                       | SYMBOL        | TEST CONDITION                    | MIN. | TYP. | MAX. | UNIT    |
|--------------------------------------|---------------|-----------------------------------|------|------|------|---------|
| Collector Cut-off Current            | $I_{CBO}$     | $V_{CB} = 400V, I_E = 0$          | —    | —    | 1    | $\mu A$ |
| Emitter Cut-off Current              | $I_{EBO}$     | $V_{EB} = 7V, I_C = 0$            | —    | —    | 1    | $\mu A$ |
| Collector-Emitter Breakdown Voltage  | $V_{CEO}$     | $I_C = 1mA, I_B = 0$              | 400  | —    | —    | V       |
| DC Current Gain                      | $h_{FE(1)}$   | $V_{CE} = 5V, I_C = 1mA$          | 80   | —    | —    |         |
|                                      | $h_{FE(2)}$   | $V_{CE} = 5V, I_C = 20mA$         | 100  | —    | 300  |         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 20mA, I_B = 0.5mA$         | —    | 0.4  | 1.0  | V       |
| Base-Emitter Voltage                 | $V_{BE}$      | $V_{CE} = 5V, I_C = 20mA$         | —    | 0.7  | 0.85 | V       |
| Collector Output Capacitance         | $C_{ob}$      | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | —    | 4.0  | —    | pF      |



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