

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

# 2SC5075

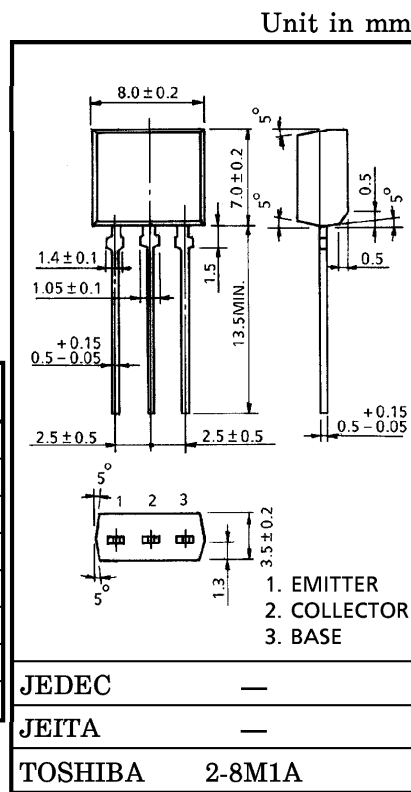
SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING APPLICATIONS

HIGH SPEED DC-DC CONVERTER APPLICATIONS

- High Speed Switching  
:  $t_r = 1.0\mu s$  (Max.),  $t_f = 1.0\mu s$  (Max.)
- High Collector Breakdown Voltage :  $V_{CEO} = 400V$

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

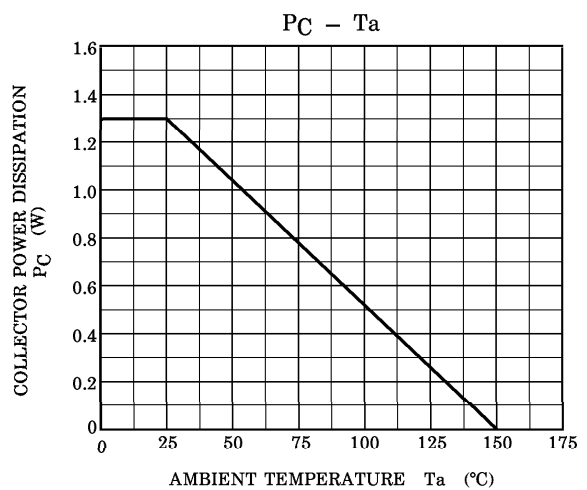
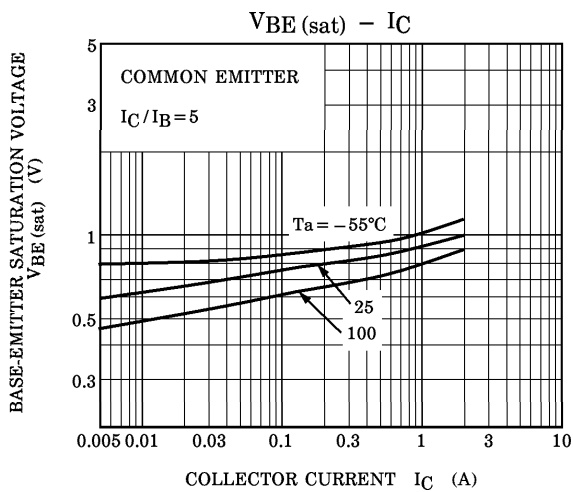
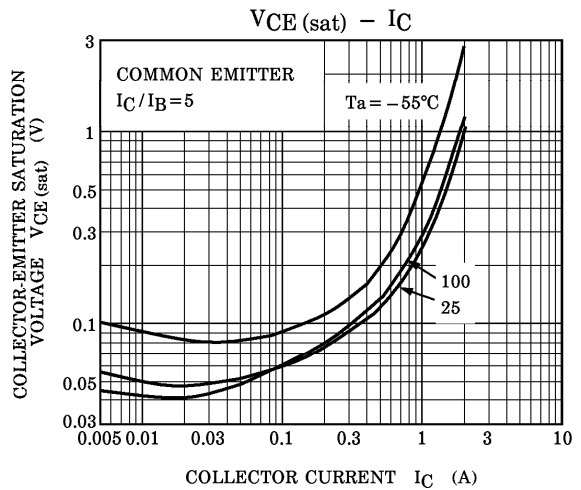
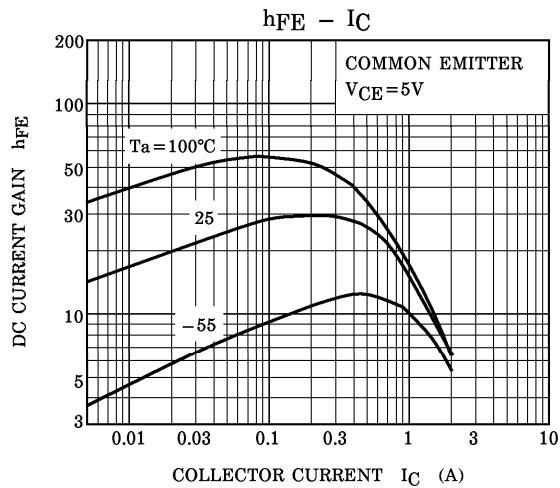
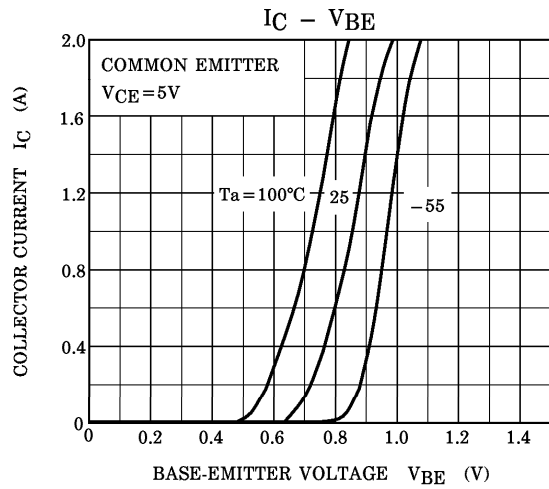
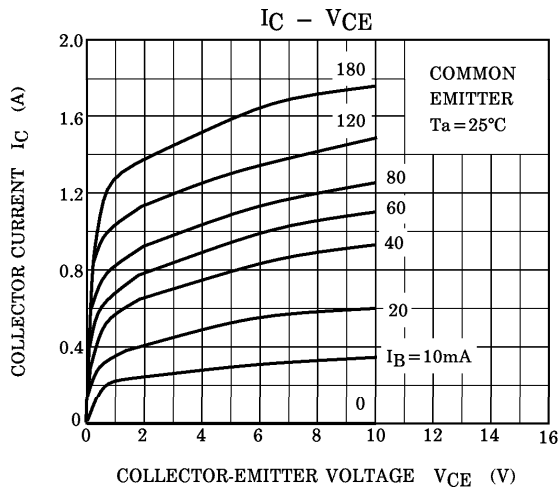
| CHARACTERISTIC              | SYMBOL    | RATING  | UNIT       |
|-----------------------------|-----------|---------|------------|
| Collector-Base Voltage      | $V_{CBO}$ | 500     | V          |
| Collector-Emitter Voltage   | $V_{CEO}$ | 400     | V          |
| Emitter-Base Voltage        | $V_{EBO}$ | 7       | V          |
| Collector Current           | $I_C$     | 2       | A          |
| Base Current                | $I_B$     | 0.5     | A          |
| Collector Power Dissipation | $P_C$     | 1.3     | W          |
| Junction Temperature        | $T_j$     | 150     | $^\circ C$ |
| Storage Temperature Range   | $T_{stg}$ | -55~150 | $^\circ C$ |

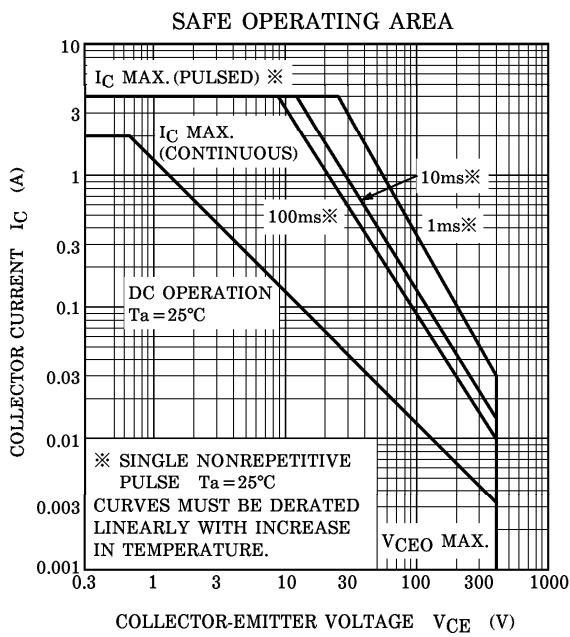
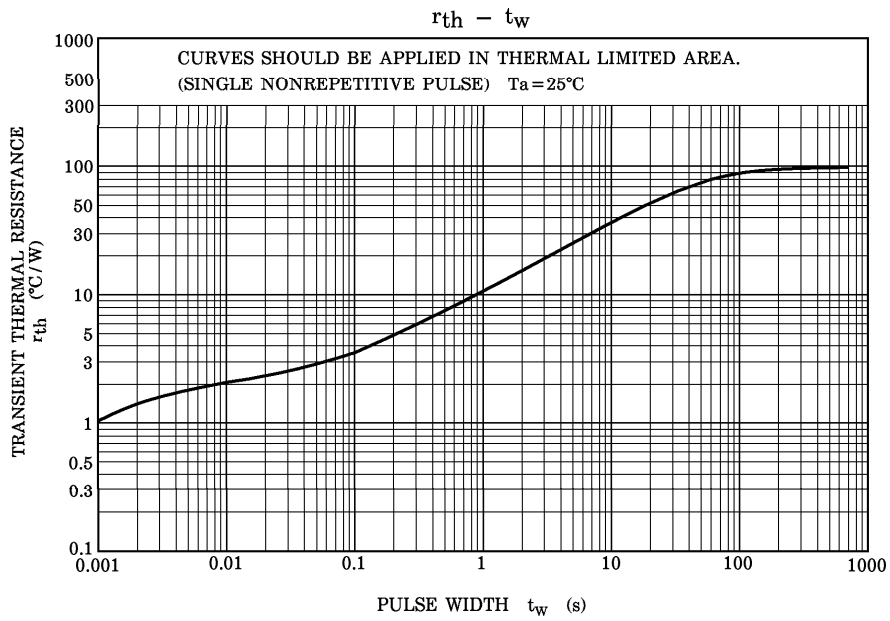


Weight : 0.55g (Typ.)

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

| CHARACTERISTIC                      |                   | SYMBOL        | TEST CONDITION            | MIN. | TYP. | MAX. | UNIT    |
|-------------------------------------|-------------------|---------------|---------------------------|------|------|------|---------|
| Collector Cut-off Current           |                   | $I_{CBO}$     | $V_{CB} = 400V, I_E = 0$  | —    | —    | 100  | $\mu A$ |
| Emitter Cut-off Current             |                   | $I_{EBO}$     | $V_{EB} = 7V, I_C = 0$    | —    | —    | 1    | mA      |
| Collector-Base Breakdown Voltage    |                   | $V_{(BR)CBO}$ | $I_C = 1mA, I_E = 0$      | 500  | —    | —    | V       |
| Collector-Emitter Breakdown Voltage |                   | $V_{(BR)CEO}$ | $I_C = 10mA, I_B = 0$     | 400  | —    | —    | V       |
| DC Current Gain                     |                   | $h_{FE(1)}$   | $V_{CE} = 5V, I_C = 0.1A$ | 20   | —    | —    |         |
|                                     |                   | $h_{FE(2)}$   | $V_{CE} = 5V, I_C = 1A$   | 8    | —    | —    |         |
| Saturation Voltage                  | Collector-Emitter | $V_{CE(sat)}$ | $I_C = 1A, I_B = 0.2A$    | —    | —    | 1.0  | V       |
|                                     | Base-Emitter      | $V_{BE(sat)}$ | $I_C = 1A, I_B = 0.2A$    | —    | —    | 1.5  |         |
| Switching Time                      | Rise Time         | $t_r$         |                           | —    | —    | 1.0  | $\mu s$ |
|                                     | Storage Time      | $t_{stg}$     |                           | —    | —    | 2.5  |         |
|                                     | Fall Time         | $t_f$         |                           | —    | —    | 1.0  |         |





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