

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

# 2SC2555

SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING APPLICATIONS.

INDUSTRIAL APPLICATIONS

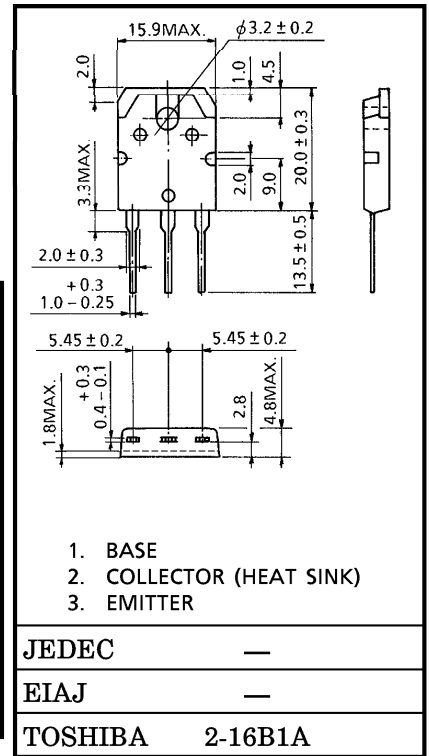
Unit in mm

HIGH SPEED DC-DC CONVERTER APPLICATIONS.

- Excellent Switching Times  
:  $t_r = 1.0\mu s$  (Max.),  $t_f = 1.0\mu s$  (Max.) at  $I_C = 4A$
- 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           | DC                 | $I_C$     | 8       | A          |
|                             | Pulse              | $I_{CP}$  | 10      | A          |
| Base Current                |                    | $I_B$     | 4       | A          |
| Collector Power Dissipation | $T_a = 25^\circ C$ | $P_C$     | 2.5     | W          |
|                             | $T_c = 25^\circ C$ |           | 80      |            |
| Junction Temperature        |                    | $T_j$     | 150     | $^\circ C$ |
| Storage Temperature Range   |                    | $T_{stg}$ | -55~150 | $^\circ C$ |

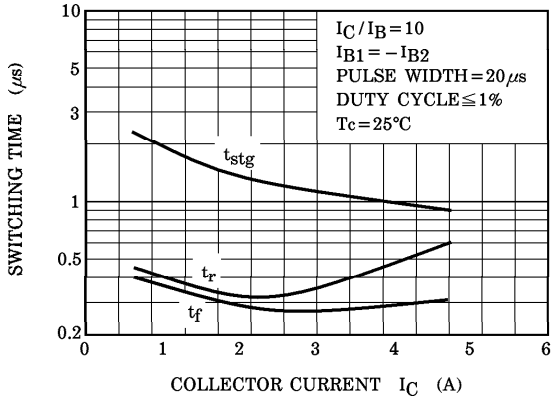


Weight : 4.6g

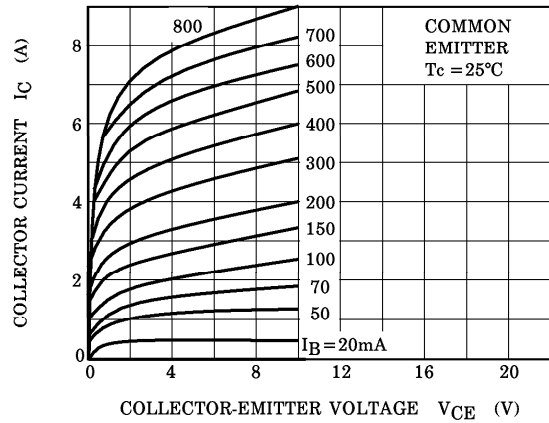
ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

| 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                     |                   | $h_{FE(1)}$   | $V_{CE} = 5V, I_C = 1A$  | 15   | —    | —    |         |
|                                     |                   | $h_{FE(2)}$   | $V_{CE} = 5V, I_C = 4A$  | 10   | —    | —    |         |
| Saturation Voltage                  | Collector-Emitter | $V_{CE(sat)}$ | $I_C = 4A, I_B = 0.8A$   | —  | —    | 1.0  | V       |
|                                     | Base-Emitter      | $V_{BE(sat)}$ | $I_C = 4A, I_B = 0.8A$   | —  | —    | 1.5  |         |
| Switching Time                      | Rise Time         | $t_r$         |                          | —  | —    | 1.0  | $\mu s$ |
|                                     | Storage Time      | $t_{stg}$     |                          | —  | —    | 2.5  |         |
|                                     | Fall Time         | $t_f$         |                          | $I_{B1} = -I_{B2} = 0.4A$<br>DUTY CYCLE $\leq 1\%$ | —    | —    |         |

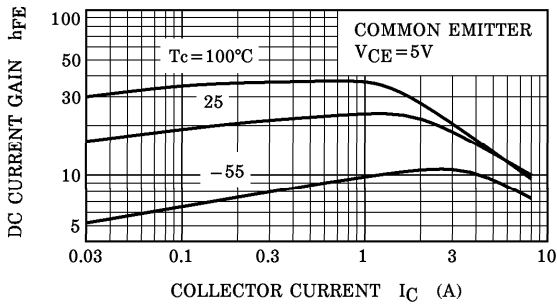
SWITCHING CHARACTERISTICS



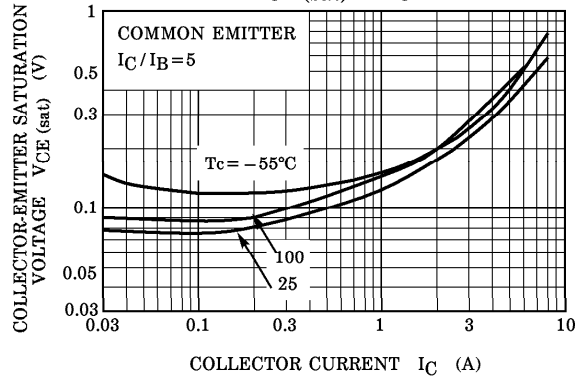
$I_C - V_{CE}$



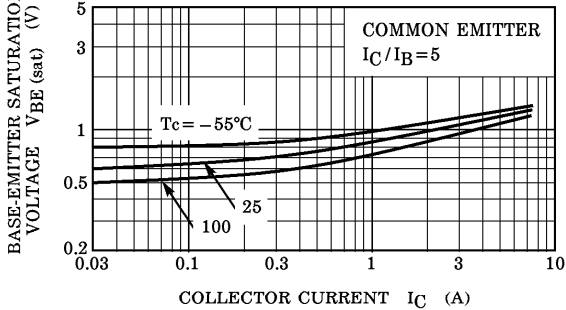
$h_{FE} - I_C$



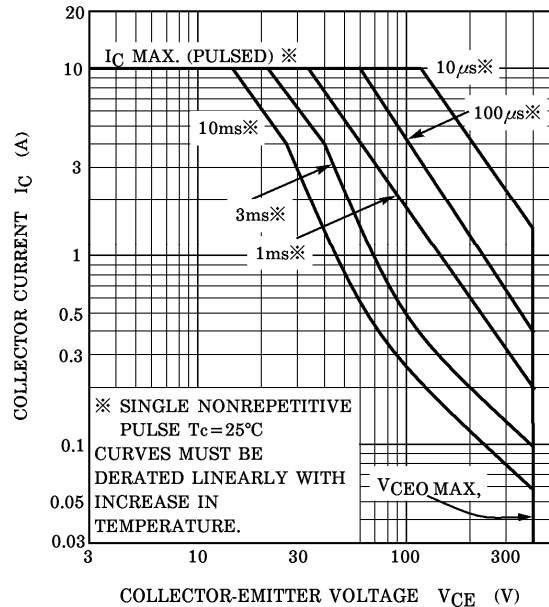
$V_{CE(sat)} - I_C$



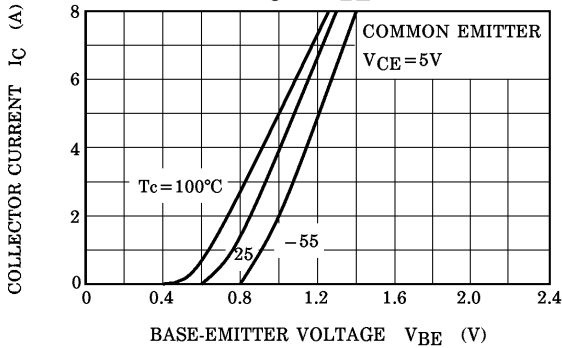
$V_{BE(sat)} - I_C$



SAFE OPERATING AREA



$I_C - V_{BE}$



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