

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

# 2SC5387

HORIZONTAL DEFLECTION OUTPUT FOR HIGH RESOLUTION

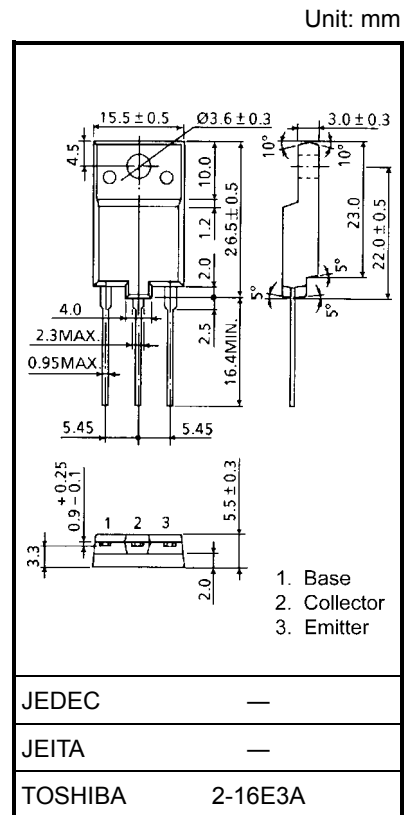
DISPLAY, COLOR TV

HIGH SPEED SWITCHING APPLICATIONS

- High Voltage :  $V_{CBO} = 1500\text{ V}$
- Low Saturation Voltage :  $V_{CE(sat)} = 3\text{ V (Max.)}$
- High Speed :  $t_f = 0.15\ \mu\text{s (Typ.)}$
- Collector Metal (Fin) is Fully Covered with Mold Resin.

## MAXIMUM RATINGS ( $T_c = 25^\circ\text{C}$ )

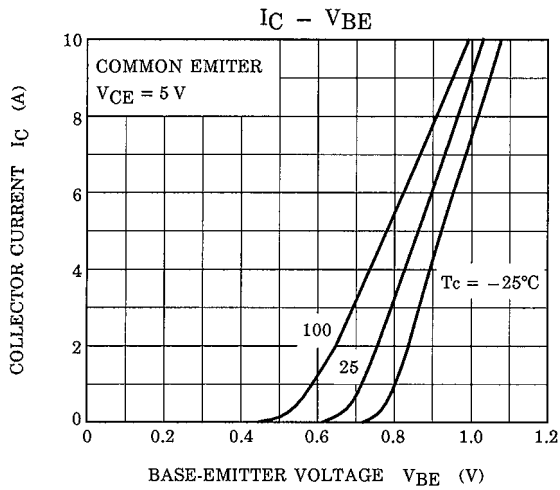
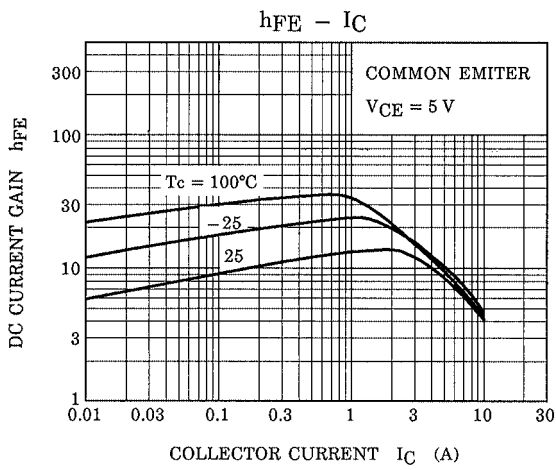
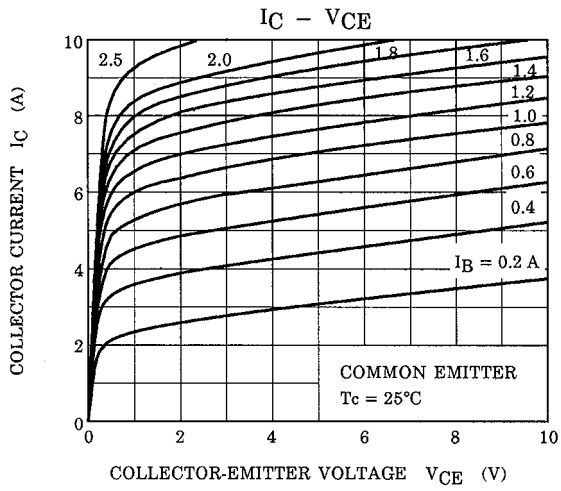
| CHARACTERISTIC              |       | SYMBOL    | RATING  | UNIT             |
|-----------------------------|-------|-----------|---------|------------------|
| Collector-Base Voltage      |       | $V_{CBO}$ | 1500    | V                |
| Collector-Emitter Voltage   |       | $V_{CEO}$ | 600     | V                |
| Emitter-Base Voltage        |       | $V_{EBO}$ | 5       | V                |
| Collector Current           | DC    | $I_C$     | 10      | A                |
|                             | Pulse | $I_{CP}$  | 20      |                  |
| Base Current                |       | $I_B$     | 5       | A                |
| Collector Power Dissipation |       | $P_C$     | 50      | W                |
| Junction Temperature        |       | $T_j$     | 150     | $^\circ\text{C}$ |
| Storage Temperature Range   |       | $T_{stg}$ | -55~150 | $^\circ\text{C}$ |

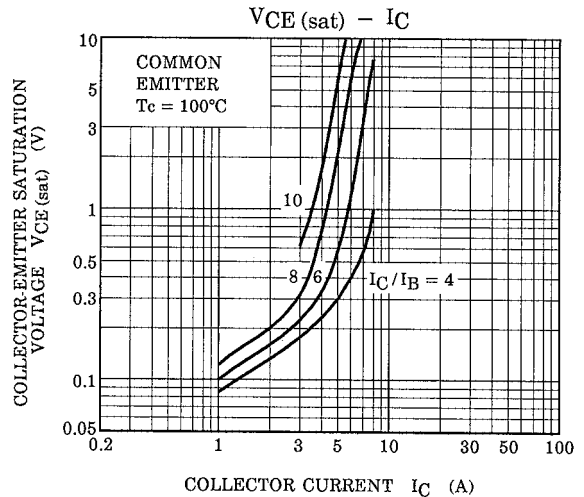
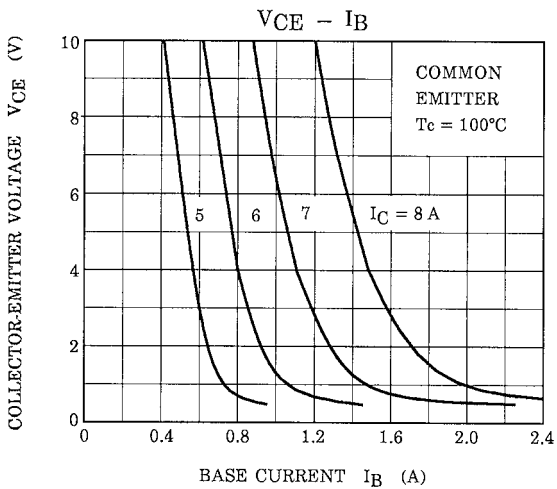
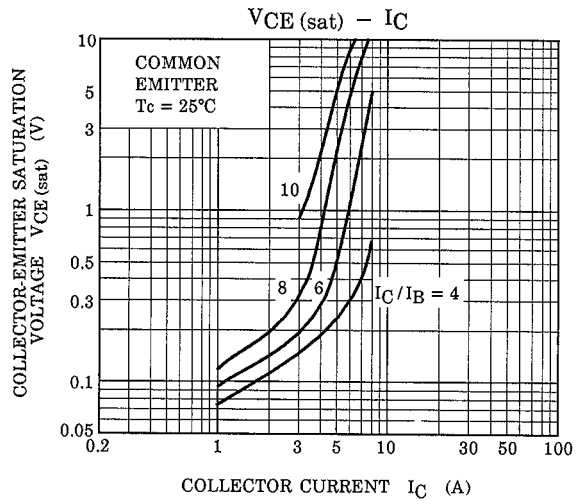
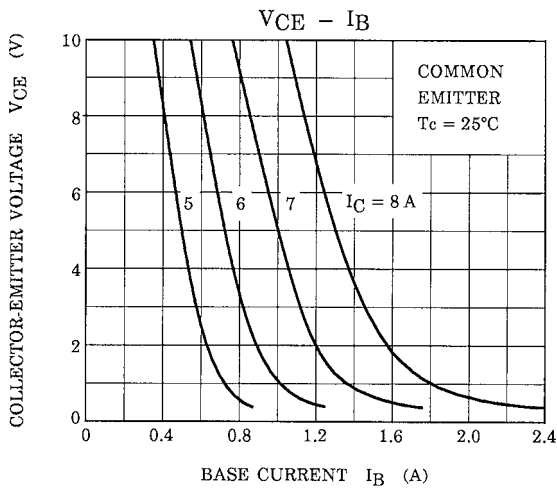
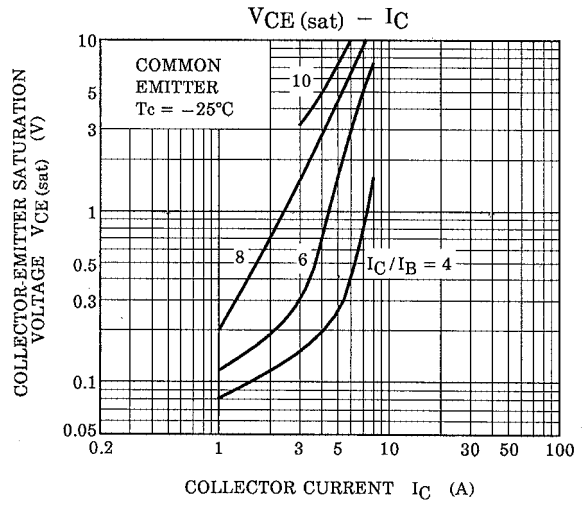
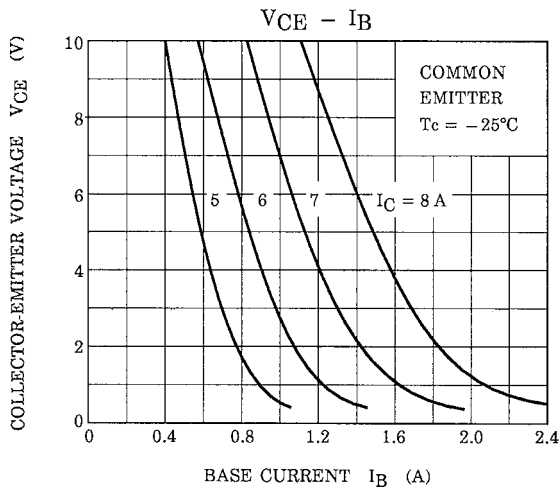


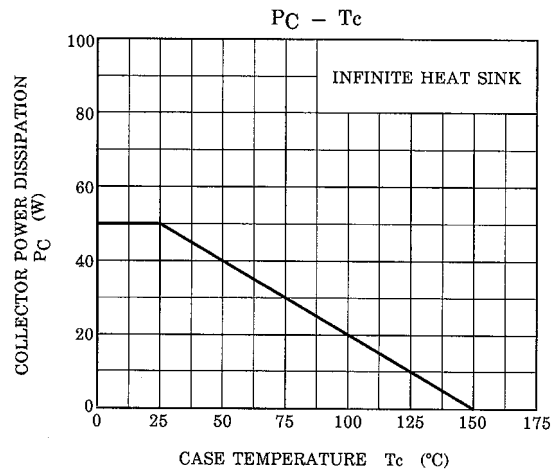
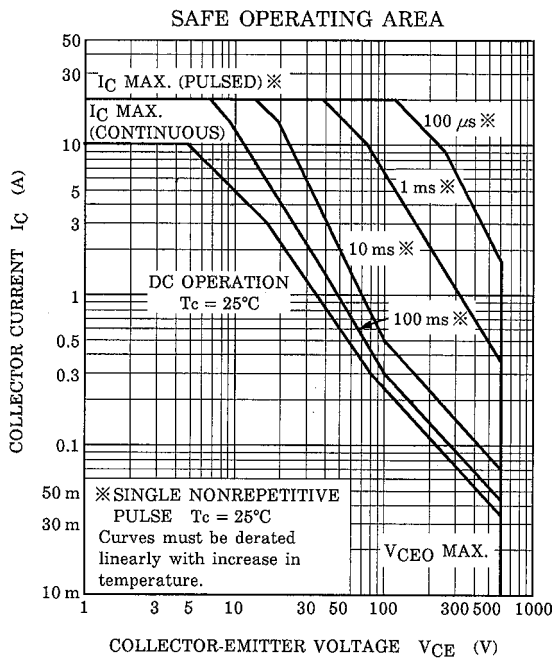
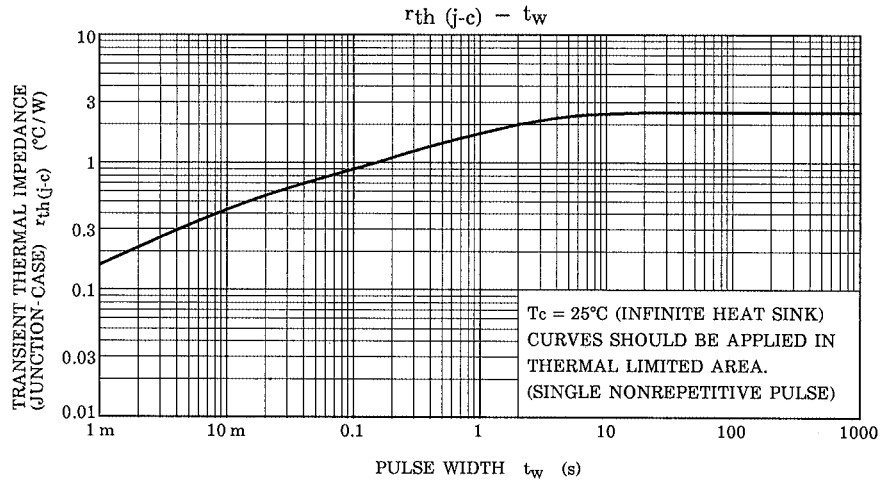
Weight: 5.5 g (typ.)

## ELECTRICAL CHARACTERISTICS ( $T_c = 25^\circ\text{C}$ )

| CHARACTERISTIC                       |              | SYMBOL        | TEST CONDITION  | MIN | TYP. | MAX | UNIT          |
|--------------------------------------|--------------|---------------|---|-----|------|-----|---------------|
| Collector Cut-off Current            |              | $I_{CBO}$     | $V_{CB} = 1500\text{ V}, I_E = 0$   | —   | —    | 1   | mA            |
| Emitter Cut-off Current              |              | $I_{EBO}$     | $V_{EB} = 5\text{ V}, I_C = 0$  | —   | —    | 10  | $\mu\text{A}$ |
| Emitter-Base Breakdown Voltage       |              | $V_{(BR)CEO}$ | $I_C = 10\text{ mA}, I_B = 0$   | 600 | —    | —   | V             |
| DC Current Gain                      |              | $h_{FE(1)}$   | $V_{CE} = 5\text{ V}, I_C = 1\text{ A}$   | 15  | —    | 35  | —             |
|                                      |              | $h_{FE(2)}$   | $V_{CE} = 5\text{ V}, I_C = 8\text{ A}$   | 4.3 | —    | 7.8 |               |
| Collector-Emitter Saturation Voltage |              | $V_{CE(sat)}$ | $I_C = 8\text{ A}, I_B = 2\text{ A}$  | —   | —    | 3   | V             |
| Base-Emitter Saturation Voltage      |              | $V_{BE(sat)}$ | $I_C = 8\text{ A}, I_B = 2\text{ A}$  | —   | —    | 1.5 | V             |
| Transition Frequency                 |              | $f_T$         | $V_{CE} = 10\text{ V}, I_C = 0.1\text{ A}$  | —   | 1.7  | —   | MHz           |
| Collector Output Capacitance         |              | $C_{ob}$      | $V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$                                 | —   | 130  | —   | pF            |
| Switching Time                       | Storage Time | $t_{stg}$     | $I_{CP} = 6\text{ A}, I_{B1}(\text{end}) = 1.2\text{ A}$<br>$f_H = 64\text{ kHz}$ | —   | 2.5  | 3.5 | $\mu\text{s}$ |
|                                      | Fall Time    | $t_f$         |   | —   | 0.15 | 0.3 |               |







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