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# 2SC4589

Silicon NPN Triple Diffused

# HITACHI

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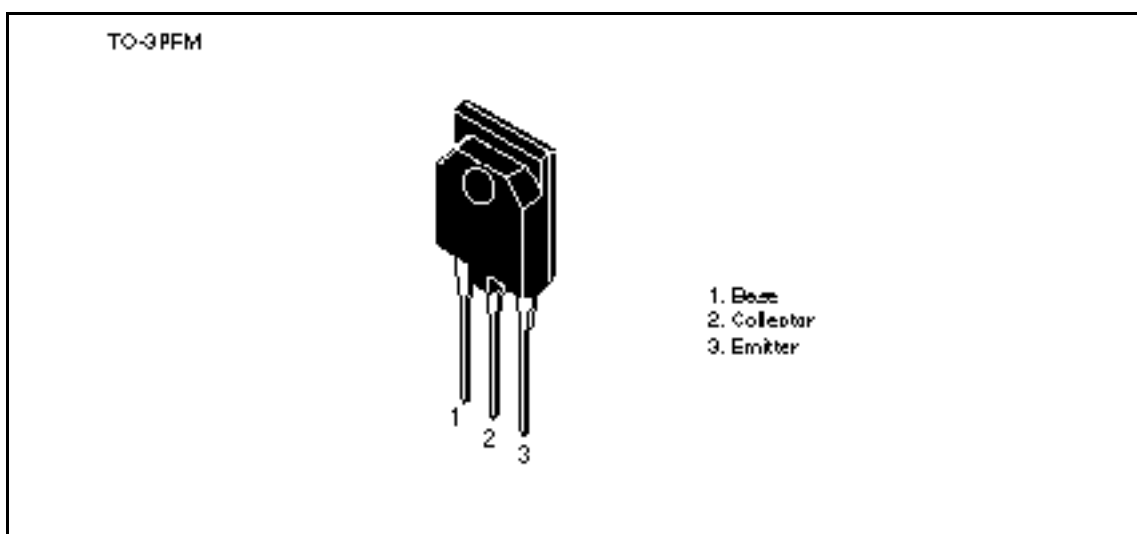
## Application

CTV/character display horizontal deflection output

## Features

- High speed switching  $t_f = 0.5 \mu s$
- High breakdown voltage  $V_{CBO} = 1500 V$
- Isolated package; TO-3PFM

## Outline



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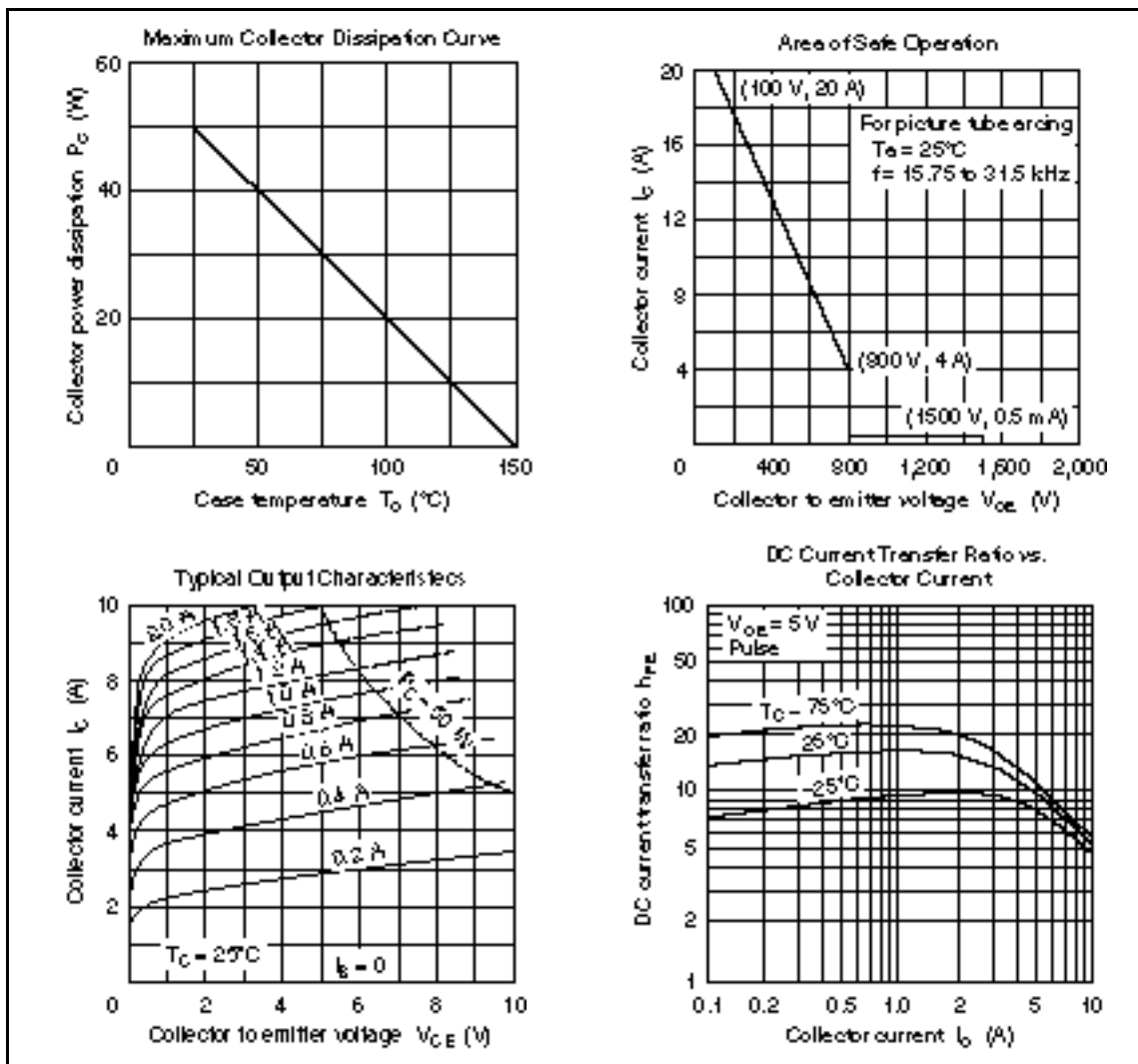
### Absolute Maximum Ratings (Ta = 25°C)

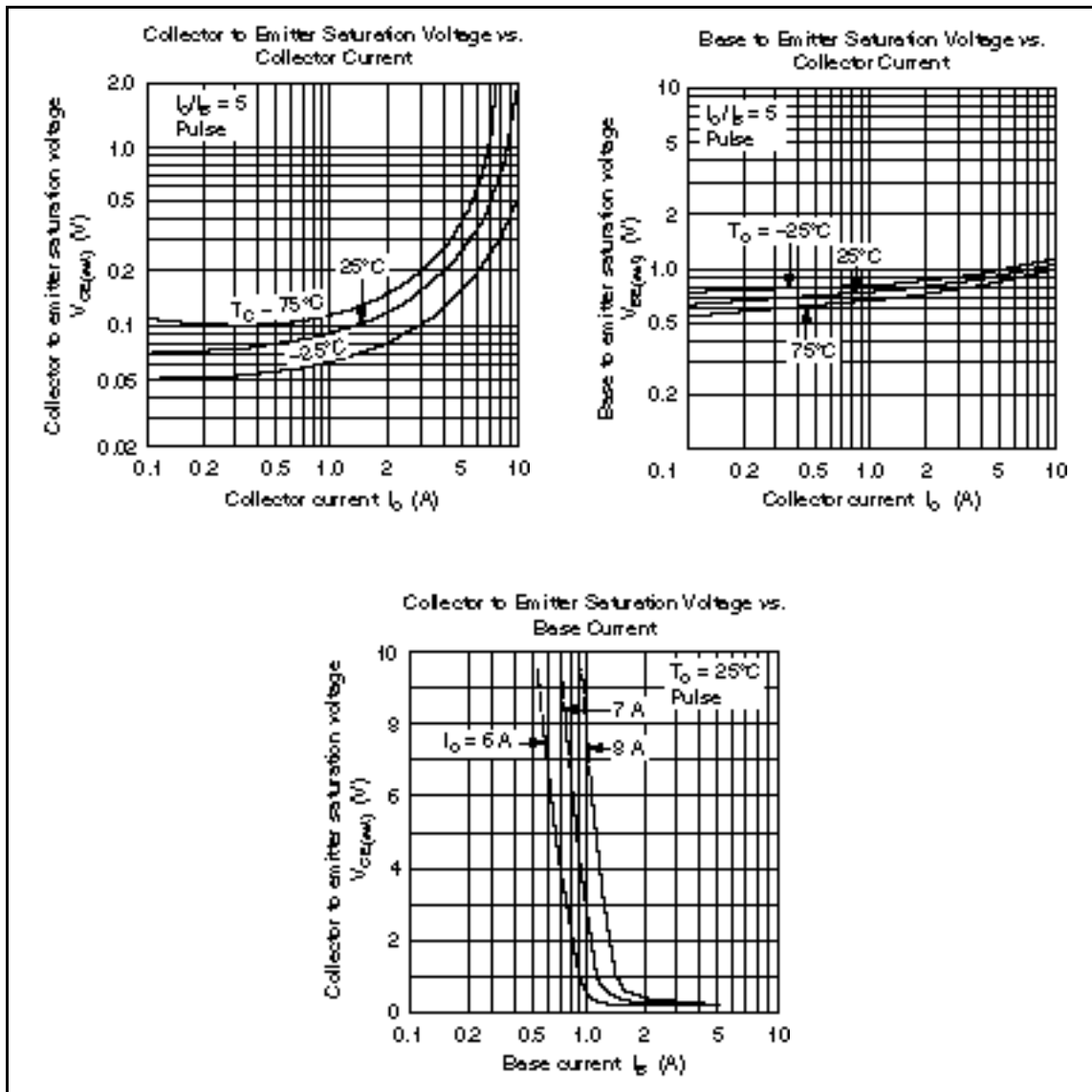
| Item                         | Symbol         | Ratings     | Unit |
|------------------------------|----------------|-------------|------|
| Collector to base voltage    | $V_{CBO}$      | 1500        | V    |
| Collector to emitter voltage | $V_{CEO}$      | 800         | V    |
| Emitter to base voltage      | $V_{EBO}$      | 5           | V    |
| Collector current            | $I_C$          | 10          | A    |
| Collector surge current      | $I_{C(surge)}$ | 20          | A    |
| Collector power dissipation  | $P_C^{*1}$     | 50          | W    |
| Junction temperature         | $T_j$          | 150         | °C   |
| Storage temperature          | $T_{stg}$      | -55 to +150 | °C   |

Note: 1. Value at  $T_C = 25^\circ\text{C}$ .

### Electrical Characteristics (Ta = 25°C)

| Item                                    | Symbol        | Min | Typ | Max | Unit          | Test conditions                                 |
|---|---------------|-----|-----|-----|---------------|---|
| Collector to emitter breakdown voltage  | $V_{(BR)CEO}$ | 800 | —   | —   | V             | $I_C = 10\text{ mA}$ , $R_{BE} =$               |
| Emitter to base breakdown voltage       | $V_{(BR)EBO}$ | 5   | —   | —   | V             | $I_E = 10\text{ mA}$ , $I_C = 0$                |
| Collector cutoff current                | $I_{CES}$     | —   | —   | 500 | $\mu\text{A}$ | $V_{CE} = 1500\text{ V}$ , $R_{BE} = 0$         |
| DC current transfer ratio               | $h_{FE}$      | 8   | —   | 38  |               | $V_{CE} = 5\text{ V}$ , $I_C = 1\text{ A}$      |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | —   | —   | 5   | V             | $I_C = 8\text{ A}$ , $I_B = 1.6\text{ A}$       |
| Base to emitter saturation voltage      | $V_{BE(sat)}$ | —   | —   | 1.5 | V             | $I_C = 8\text{ A}$ , $I_B = 1.6\text{ A}$       |
| Fall time                               | $t_f$         | —   | 0.2 | 0.5 | $\mu\text{s}$ | $I_{CP} = 7\text{ A}$ , $I_{B1} = 1.4\text{ A}$ |





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