HITACHI

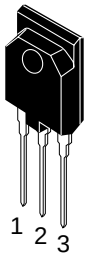
# 2SC4745

**Silicon NPN Triple Diffused**
**Character Display Horizontal Deflection Output**

## Feature

- High speed switching
  $t_f$ = 0.2 µs typ
- High breakdown voltage
  $V_{CBO}$ = 1500 V
- Isolated package; TO-3PFM

TO-3PFM




1. Base
2. Collector
3. Emitter

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

| Item | Symbol | Rating | Unit |
|---|---|---|---|
| Collector to base voltage | $V_{CBO}$ | 1500 | V |
| Collector to emitter voltage | $V_{CEO}$ | 800 | V |
| Emitter to base voltage | $V_{EBO}$ | 6 | V |
| Collector current | $I_C$ | 6 | A |
| Collector peak current | $i_{C(peak)}$ | 7 | A |
| Collector surge current | $i_{C(surge)}$ | 16 | A |
| Collector power dissipation | $P_C$*1 | 50 | W |
| Junction temperature | Tj | 150 | °C |
| Storage temperature | Tstg | –55 to +150 | °C |

Note: 1. Value at $T_C$ = 25°C.

## Electrical Characteristics (Ta = 25°C)

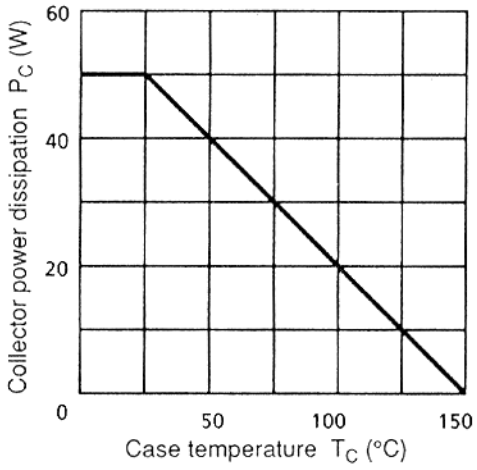
| Item | Symbol | Min | Typ | Max | Unit | Test condition |
|---|---|---|---|---|---|---|
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 800 | — | — | V | $I_C$ = 10 mA, $R_{BE}$ = ∞ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | 6 | — | — | V | $I_E$ = 10 mA, $I_C$ = 0 |
| Collector cutoff current | $I_{CES}$ | — | — | 500 | µA | $V_{CE}$ = 1500 V, $R_{BE}$ = 0 |
| DC current transfer ratio | $h_{FE}$ | 7 | — | 30 | | $V_{CE}$ = 5 V, $I_C$ = 1 A |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | — | 5 | V | $I_C$ = 5 A, $I_B$ = 1 A |
| Base to emitter saturation voltage | $V_{BE(sat)}$ | — | — | 1.5 | V | $I_C$ = 5 A, $I_B$ = 1 A |

## 2SC4745

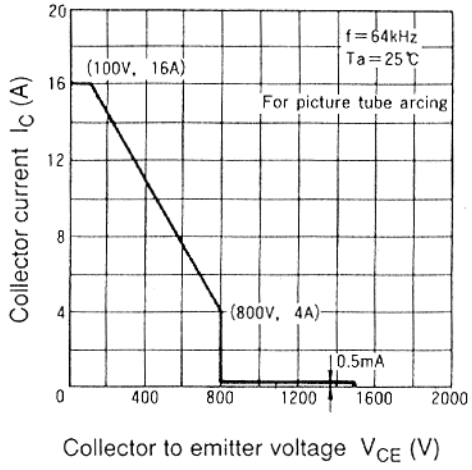
### Electrical Characteristics (Ta = 25°C) (cont)

| Item | Symbol | Min | Typ | Max | Unit | Test condition |
|---|---|---|---|---|---|---|
| Fall time | $t_f$ | — | 0.2 | 0.4 | µs | $I_{CP}$ = 5 A, $I_{B1}$ = 1 A, $f_H$ = 64 kHz |

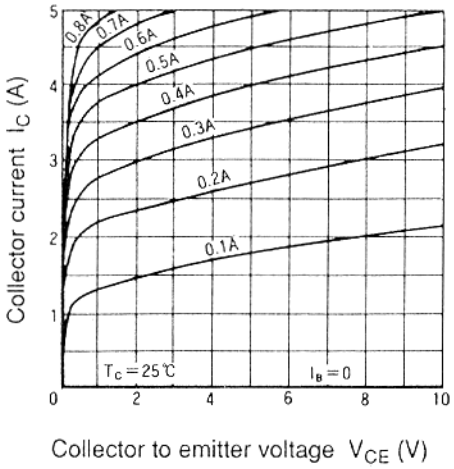
Maximum Collector Dissipation Curve



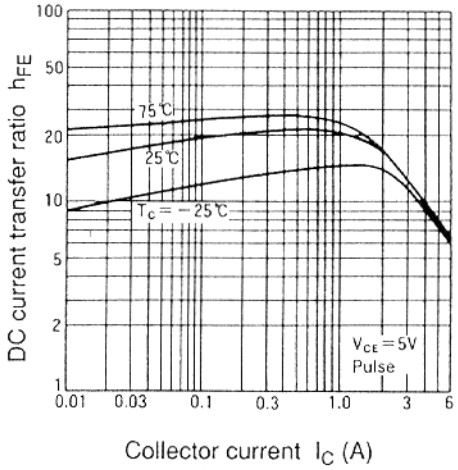

Area of Safe Operation



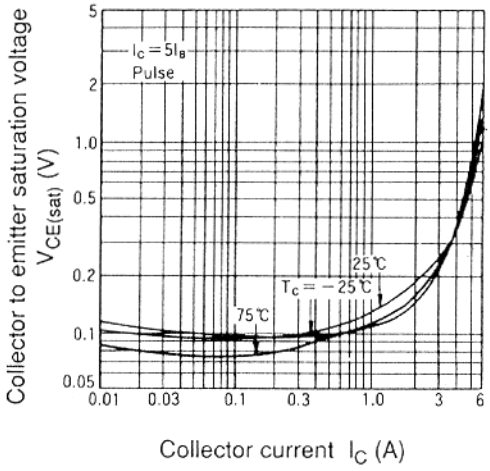
Typical Output Characteristics



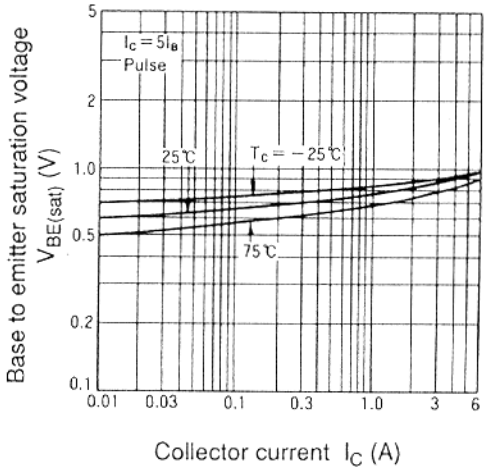

DC Current Transfer Ratio vs. Collector Current




Collector to Emitter Saturation Voltage vs. Collector Current




Base to Emitter Saturation Voltage vs. Collector Current



## 2SC4745

Collector to Emitter Saturation Voltage
vs. Base Current