

2SC4589

Silicon NPN Triple Diffused
CTV/Character Display Horizontal Deflection Output

Feature

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

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

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}	5	V
Collector current	I_C	10	A
Collector surge current	$i_{C(\text{surge})}$	20	A
Collector power dissipation	P_C	50	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

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

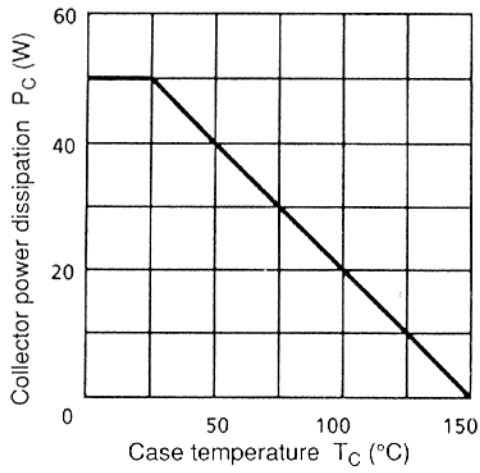
TO-3PFM



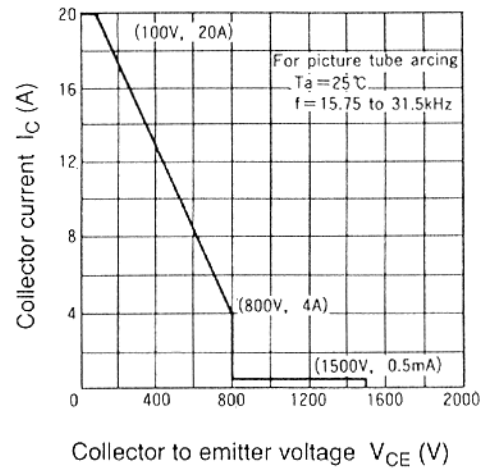
1. Base
2. Collector
3. Emitter

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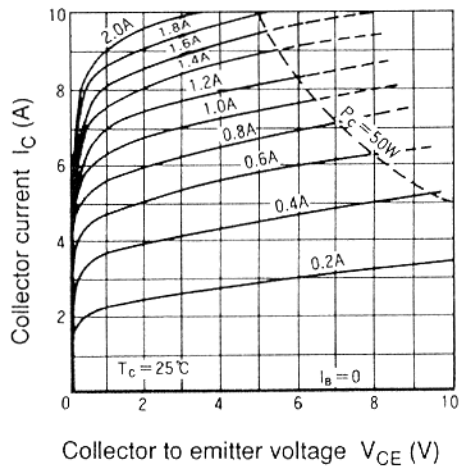
Maximum Collector Dissipation Curve



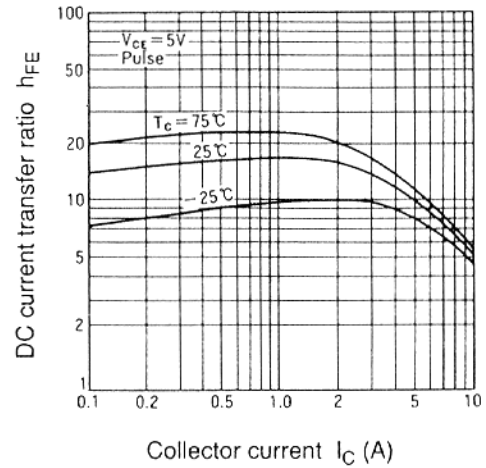
Area of Safe Operation



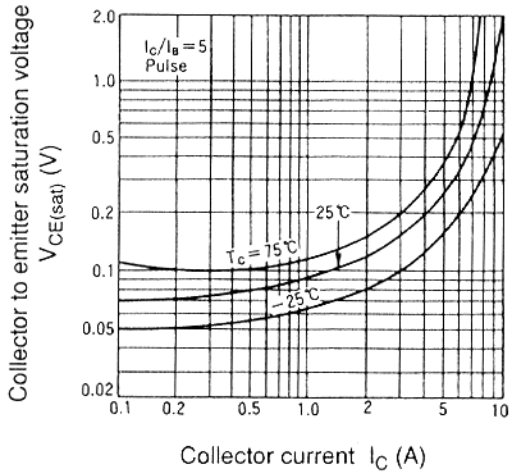
Typical Output Characteristics



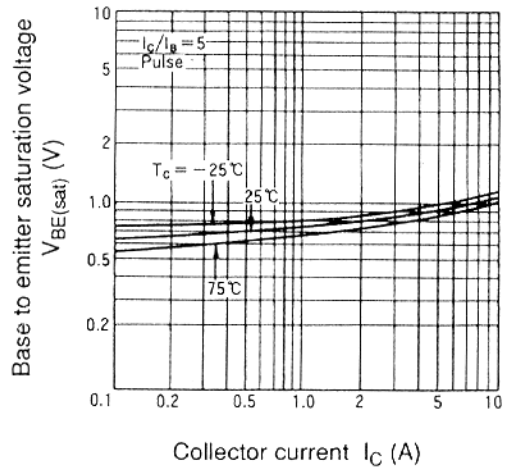
DC Current Transfer Ratio vs. Collector Current



Collector to Emitter Saturation Voltage vs. Collector Current



Base to Emitter Saturation Voltage vs. Collector Current



Collector to Emitter Saturation Voltage vs. Base Current

