

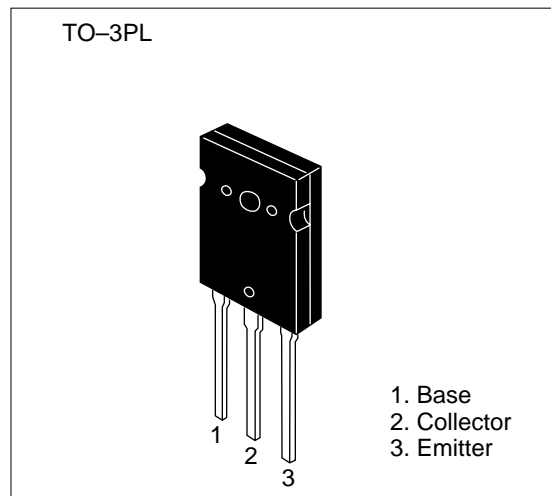
Silicon NPN Triple Diffused

Application

Character Display Horizontal Deflection Output

Features

- High speed switching time: 0.5 μ s max
- High breakdown voltage, high current:
 $V_{CBO} = 1500$ V, $I_C = 20$ A
- Suitable for large size CRT Display



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

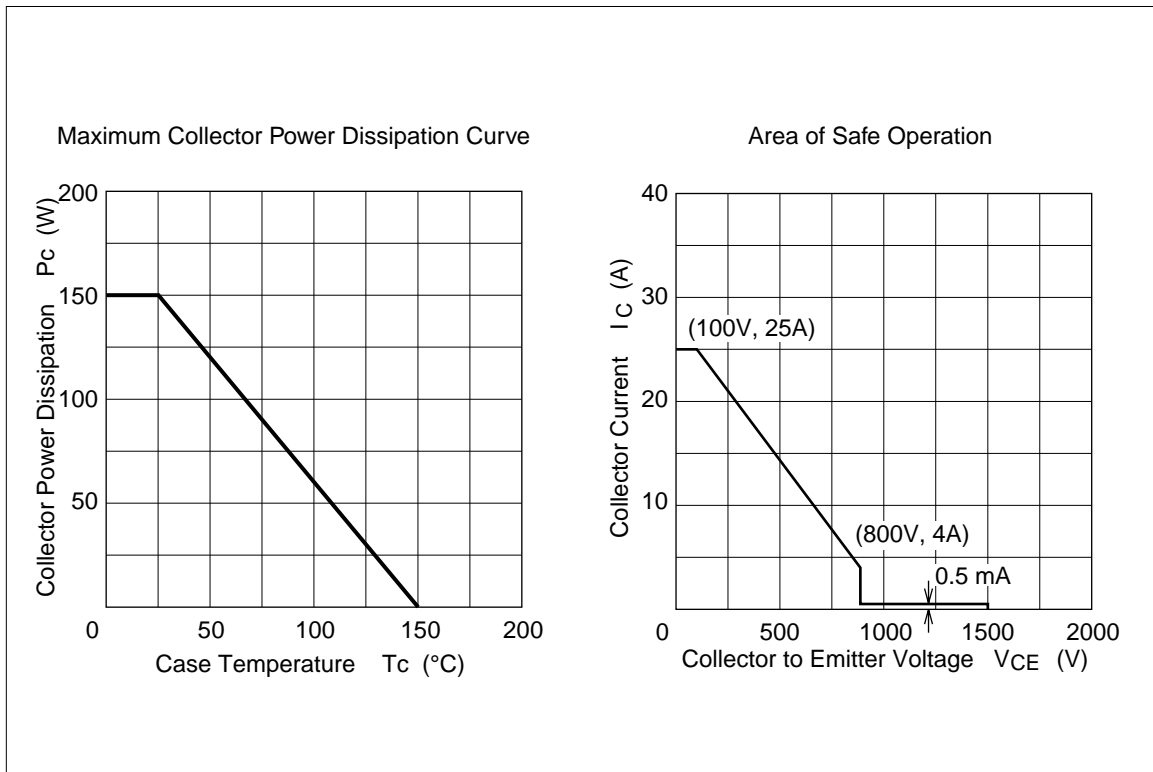
Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	1500	V
Collector to emitter voltage	V_{CEO}	800	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	20	A
Collector surge current	$i_c(\text{surge})$	25	A
Collector power dissipation	P_C^{*1}	150	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

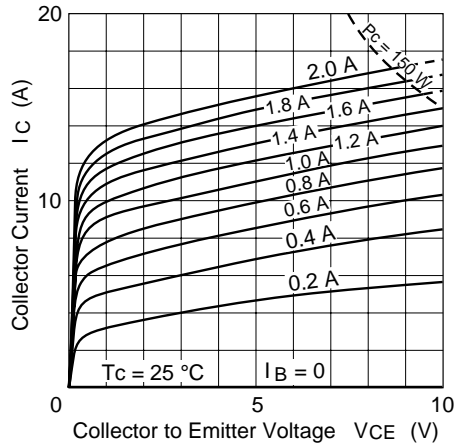
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Electrical Characteristics (Ta = 25°C)

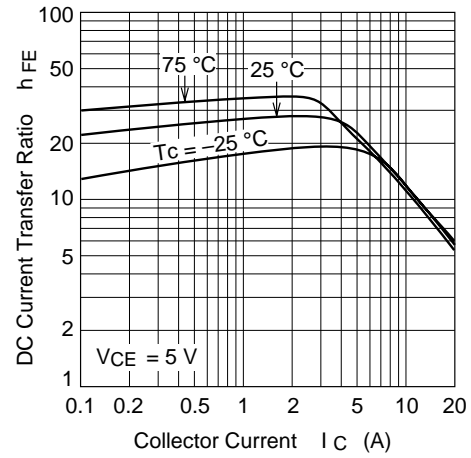
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	800	—	—	V	$I_C = 10 \text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	$I_E = 10 \text{ mA}$, $I_C = 0$
Collector cutoff current	I_{CES}	—	—	500	μA	$V_{CE} = 1500 \text{ V}$, $R_{BE} = 0$
DC current transfer ratio	h_{FE}	—	—	38	—	$V_{CE} = 5 \text{ V}$, $I_C = 1 \text{ A}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	5	V	$I_C = 14 \text{ A}$, $I_B = 3.5 \text{ A}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.5	V	$I_C = 14 \text{ A}$, $I_B = 3.5 \text{ A}$
Fall time	t_f	—	—	0.5	μs	$I_{CP} = 10 \text{ A}$, $I_{B1} = 2 \text{ A}$ $I_{B2} \approx -3 \text{ A}$, $f_H = 31.5 \text{ kHz}$



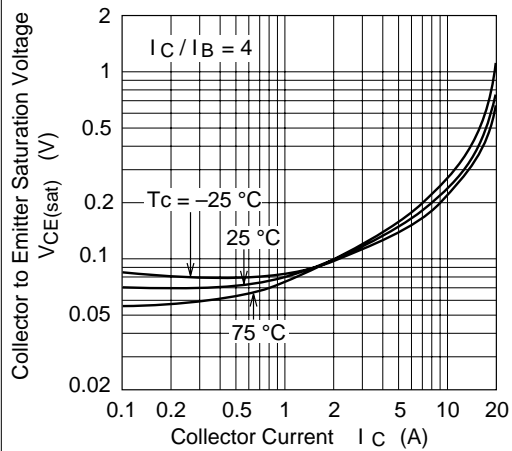
Typical Output Characteristics



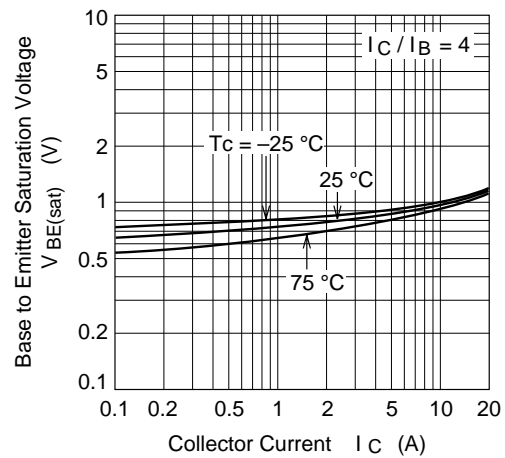
DC Current Transfer Ratio vs. Collector Current



Collector to Emitter Saturation Voltage vs. Collector Current



Base to Emitter Saturation Voltage vs. Collector Current



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