HITACHI

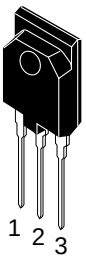
2SD2311

Silicon NPN Triple Diffused
CTV Horizontal Deflection Output

Feature

- High breakdown voltage
  V_{CBO} = 1500 V

TO-3PFM



1. Base
2. Collector
3. Emitter

Absolute Maximum Ratings (Ta = 25°C)

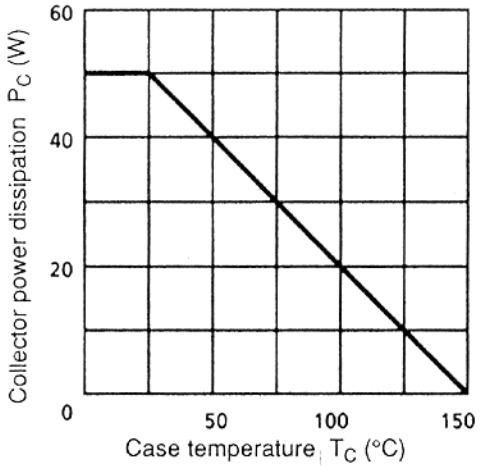
Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	1500	V
Collector to emitter voltage	V_{CEO}	800	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	5	A
Collector peak current	$i_{C(peak)}$	6	A
Collector surge current	$i_{C(surge)}$	16	A
Collector power dissipation	P_C*1	50	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Note: 1. Value at T_C = 25°C.

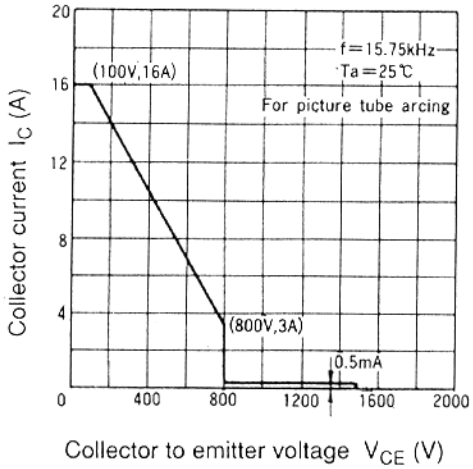
Electrical Characteristics (Ta = 25°C)

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}	—	—	30		V_{CE} = 5 V, I_C = 1 A
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	5	V	I_C = 4.5 A, I_B = 1.2 A
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.5	V	I_C = 4.5 A, I_B = 1.2 A
Fall time	t_f	—	—	0.8	µs	I_{CP} = 4 A, I_{B1} = 0.8 A, I_{B2} ≈ –1.5 A

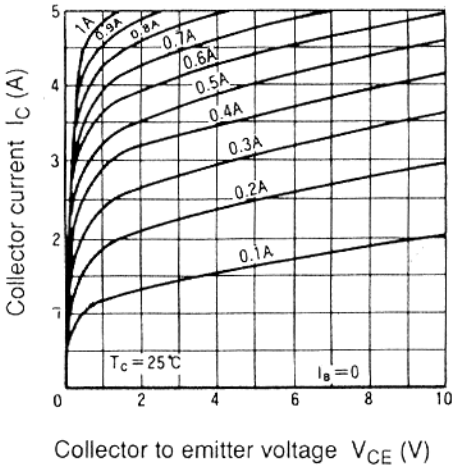
Maximum Collector Power Dissipation Curve



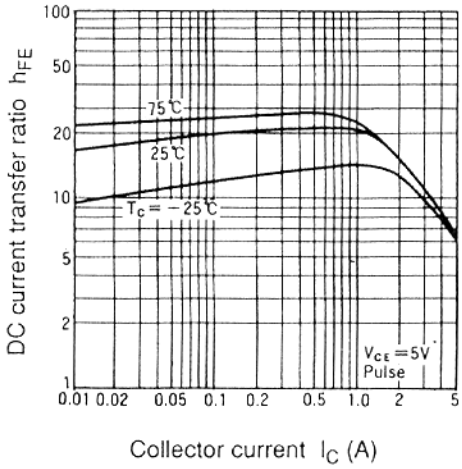
Area of Safe Operation



Typical Output Characteristics



DC Current Transfer Ratio vs. Collector Current



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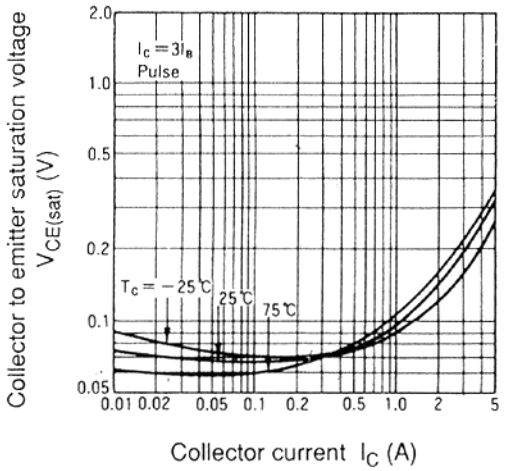
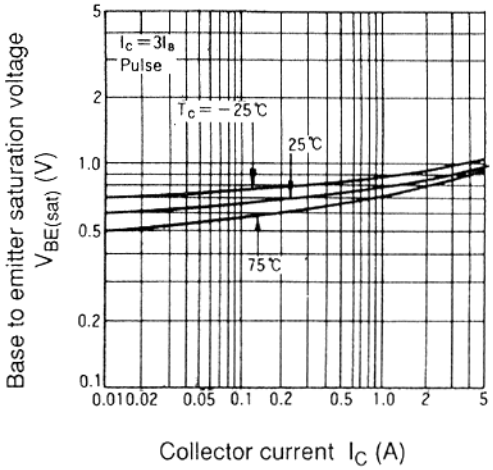
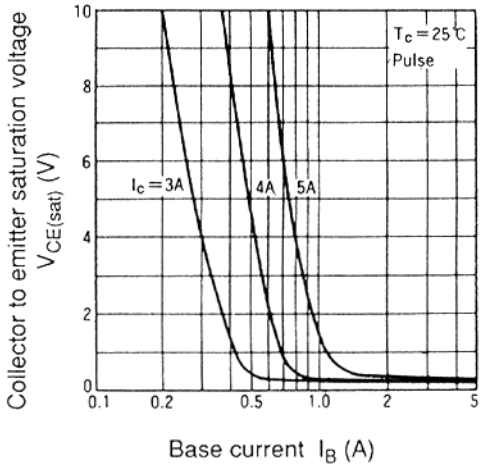
Collector to Emitter Saturation Voltage vs. Collector Current



Base to Emitter Saturation Voltage vs. Collector Current



Collector to Emitter Saturation Voltage vs. Base Current