

# 2SC2613

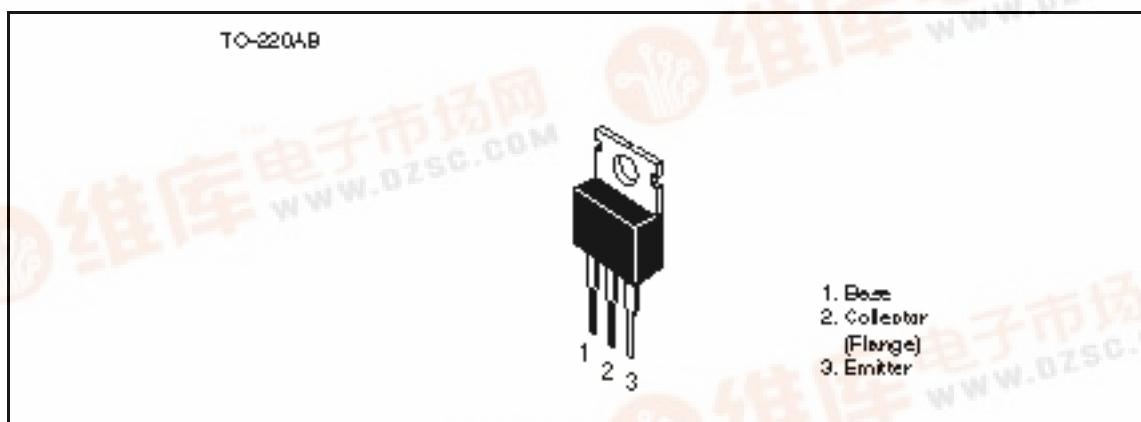
Silicon NPN Triple Diffused

**HITACHI**

## Application

High voltage, high speed and high power switching

## Outline



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

Item	Symbol	Ratings	Unit
Collector to base voltage	V <sub>CBO</sub>	500	V
Collector to emitter voltage	V <sub>CEO</sub>	400	V
Emitter to base voltage	V <sub>EBO</sub>	7	V
Collector current	I <sub>C</sub>	5	A
Collector peak current	I <sub>C(peak)</sub>	10	A
Base current	I <sub>B</sub>	2.5	A
Collector power dissipation	P <sub>C</sub> <sup>*1</sup>	40	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

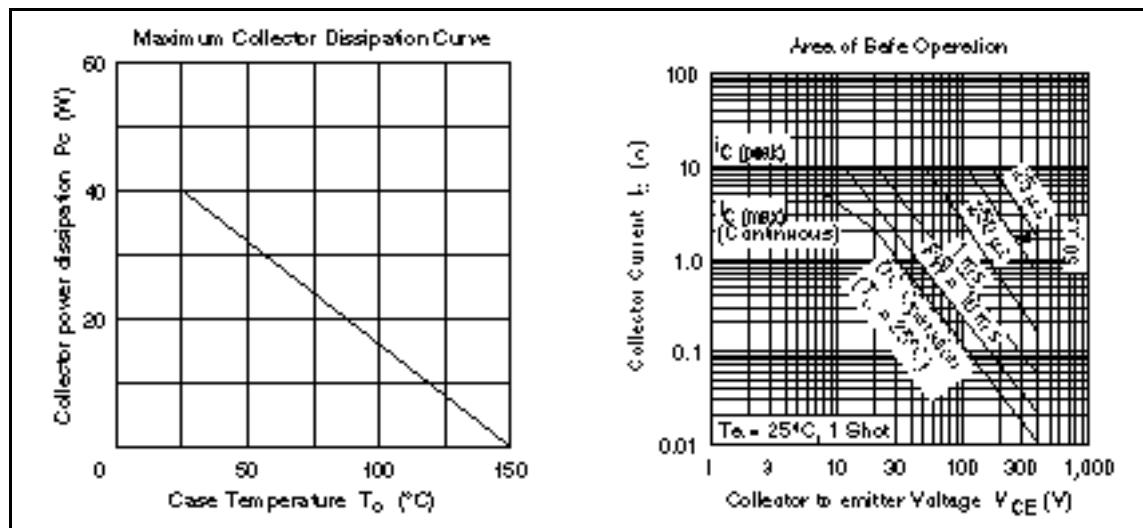
Note: 1. Value at T<sub>c</sub> = 25°C.

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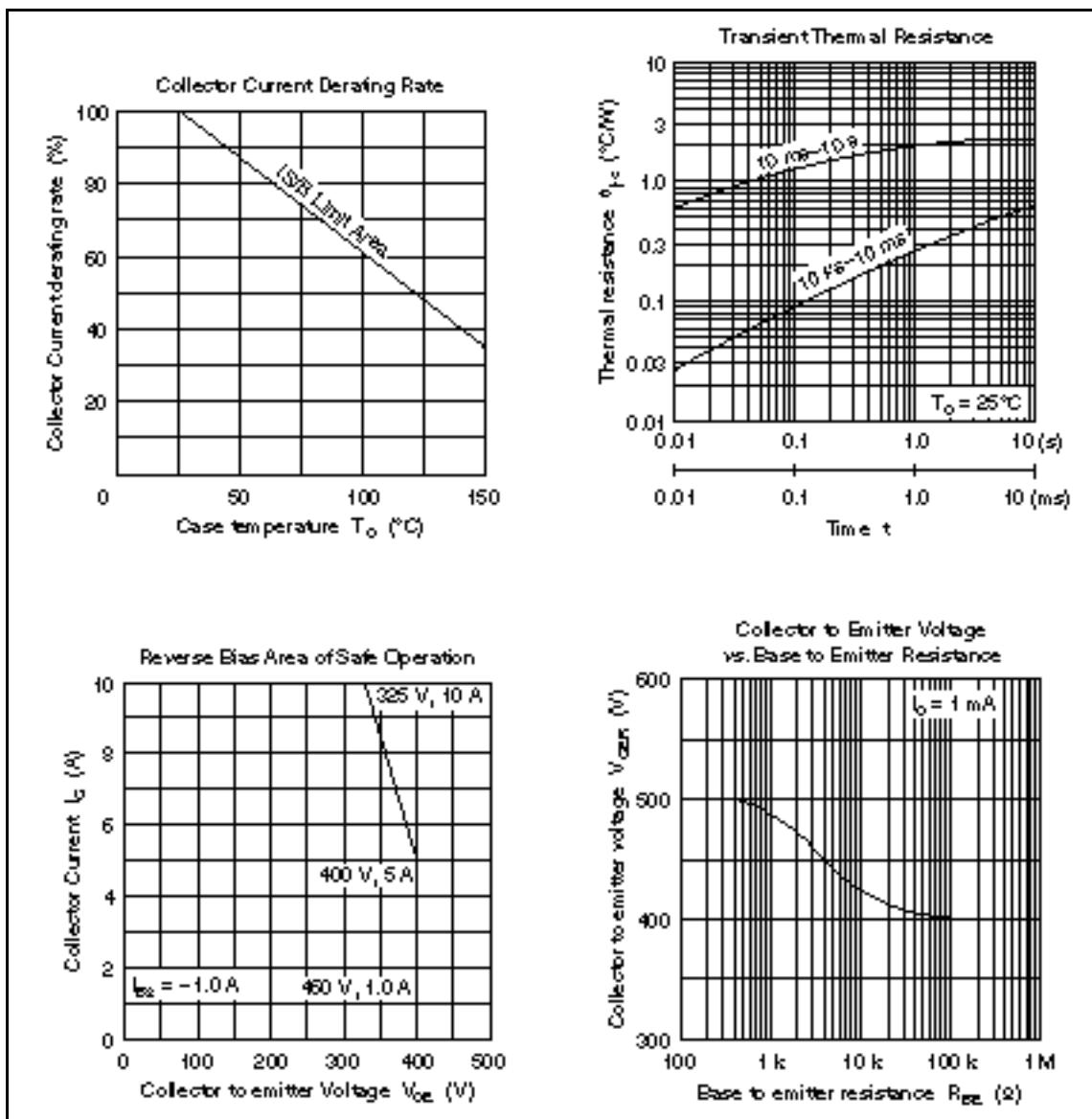
### Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter sustain voltage	V <sub>CEO(sus)</sub>	400	—	—	V	I <sub>C</sub> = 0.2 A, R <sub>BE</sub> = , L = 100 mH
	V <sub>CE(sus)</sub>	400	—	—	V	I <sub>C</sub> = 5 A, I <sub>B1</sub> = -I <sub>B2</sub> = 1 A, V <sub>BE</sub> = -5 V, L = 180 μH, Clamped
Emitter to base breakdown voltage	V <sub>(BR)EBO</sub>	7	—	—	V	I <sub>E</sub> = 10 mA, I <sub>C</sub> = 0
Collector cutoff current	I <sub>CBO</sub>	—	—	100	μA	V <sub>CB</sub> = 400 V, I <sub>E</sub> = 0
	I <sub>CEO</sub>	—	—	100	μA	V <sub>CE</sub> = 350 V, R <sub>BE</sub> =
DC current transfer ratio	h <sub>FE1</sub>	15	—	—		V <sub>CE</sub> = 5 V, I <sub>C</sub> = 2.5 A* <sup>1</sup>
	h <sub>FE2</sub>	7	—	—		V <sub>CE</sub> = 5 V, I <sub>C</sub> = 5 A* <sup>1</sup>
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	—	—	1.0	V	I <sub>C</sub> = 2.5 A, I <sub>B</sub> = 0.5 A* <sup>1</sup>
Base to emitter saturation voltage	V <sub>BE(sat)</sub>	—	—	1.5	V	I <sub>C</sub> = 2.5 A, I <sub>B</sub> = 0.5 A* <sup>1</sup>
Turn on time	t <sub>on</sub>	—	—	1.0	μs	I <sub>C</sub> = 5 A, I <sub>B1</sub> = -I <sub>B2</sub> = 1 A,
Storage time	t <sub>stg</sub>	—	1.2	2.5	μs	V <sub>CC</sub> 150 V
Fall time	t <sub>f</sub>	—	—	1.0	μs	

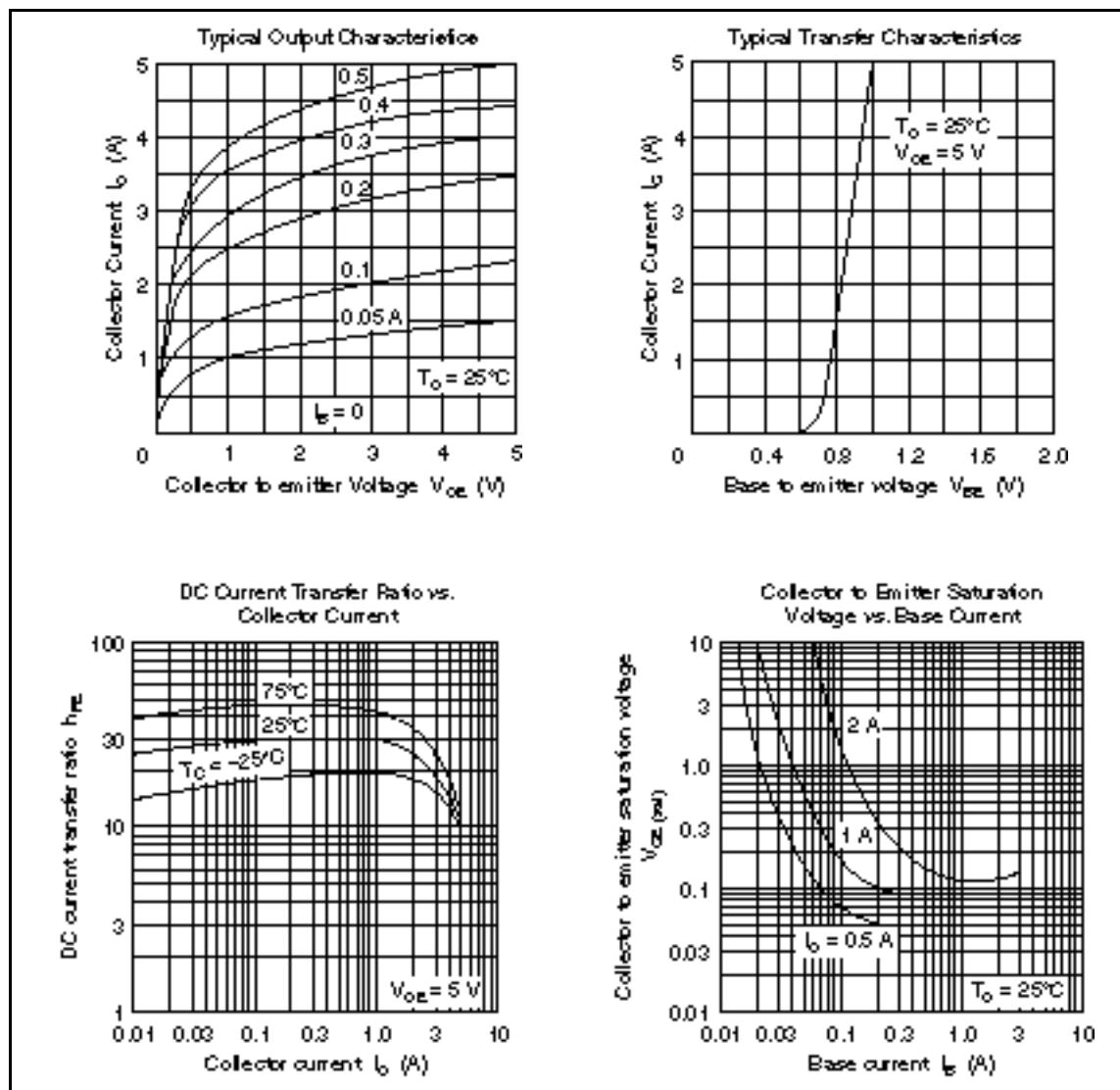
Note: 1. Pulse test.



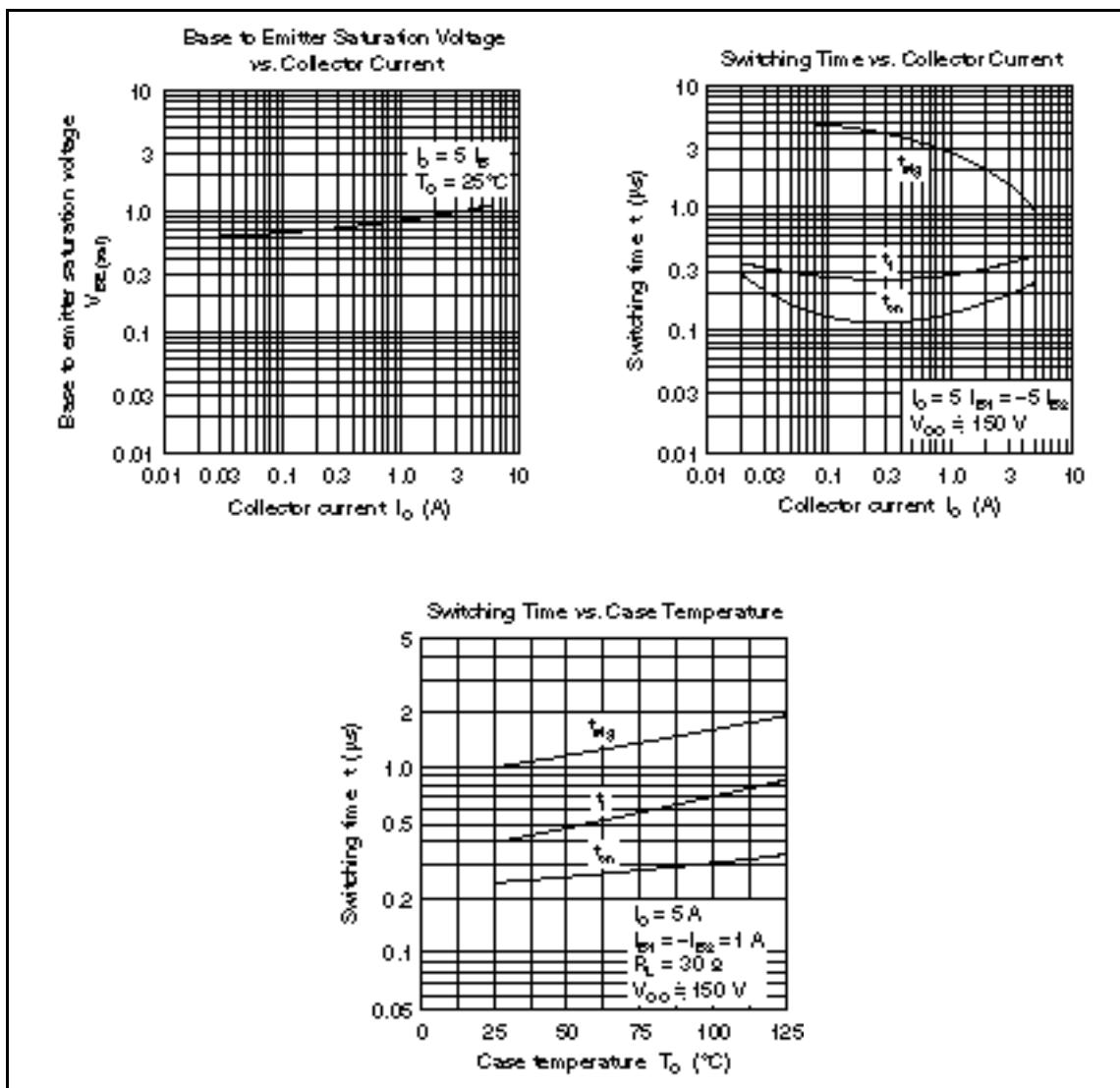
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