

# 2SC2613

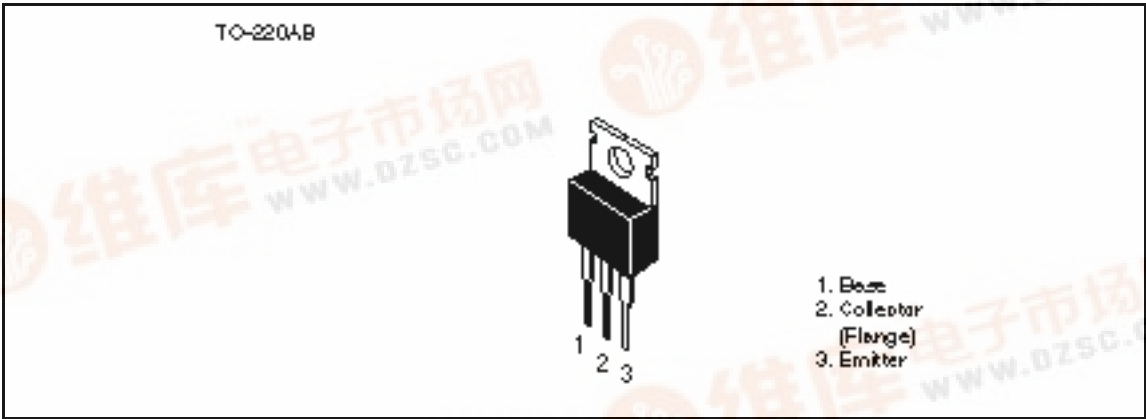
Silicon NPN Triple Diffused

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	$V_{CBO}$	500	V
Collector to emitter voltage	$V_{CEO}$	400	V
Emitter to base voltage	$V_{EBO}$	7	V
Collector current	$I_C$	5	A
Collector peak current	$I_{C(peak)}$	10	A
Base current	$I_B$	2.5	A
Collector power dissipation	$P_C^{*1}$	40	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

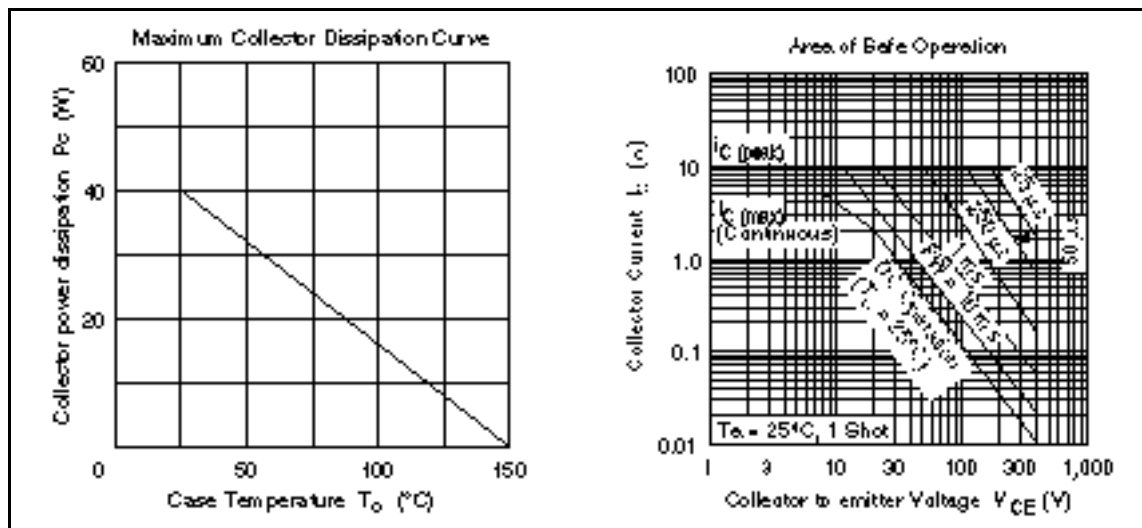
Note: 1. Value at  $T_C = 25^\circ\text{C}$ .

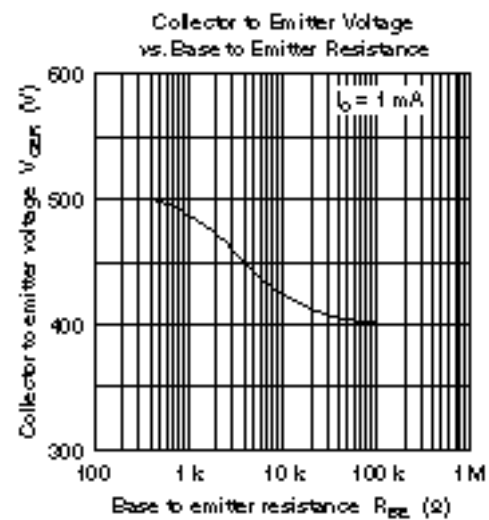
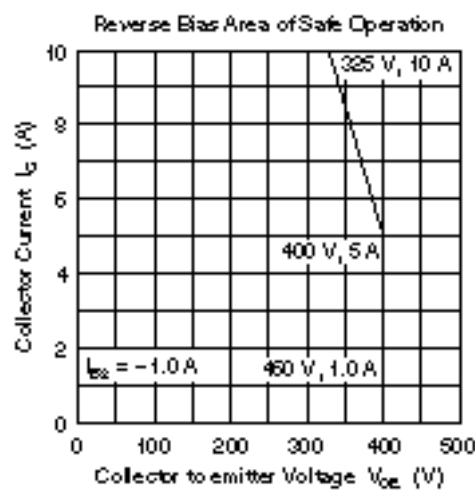
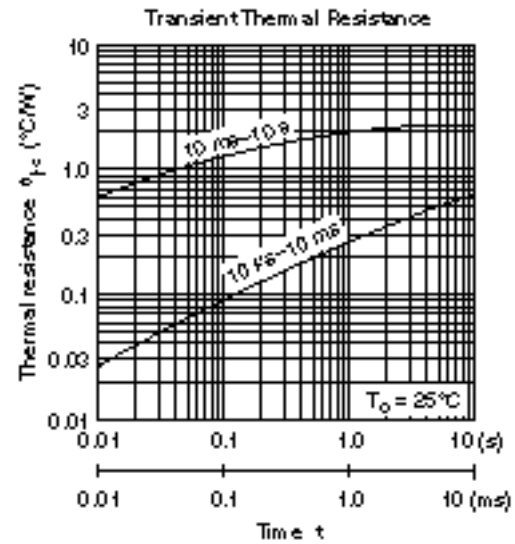
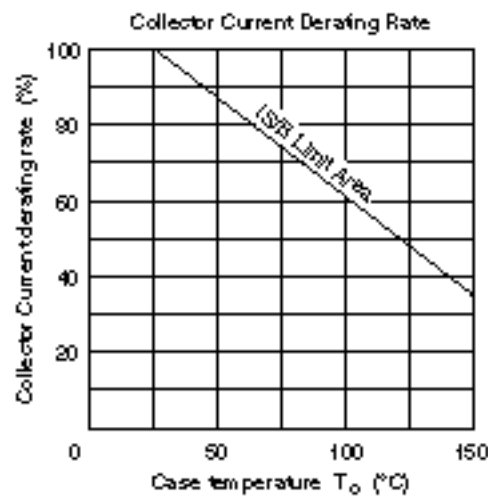
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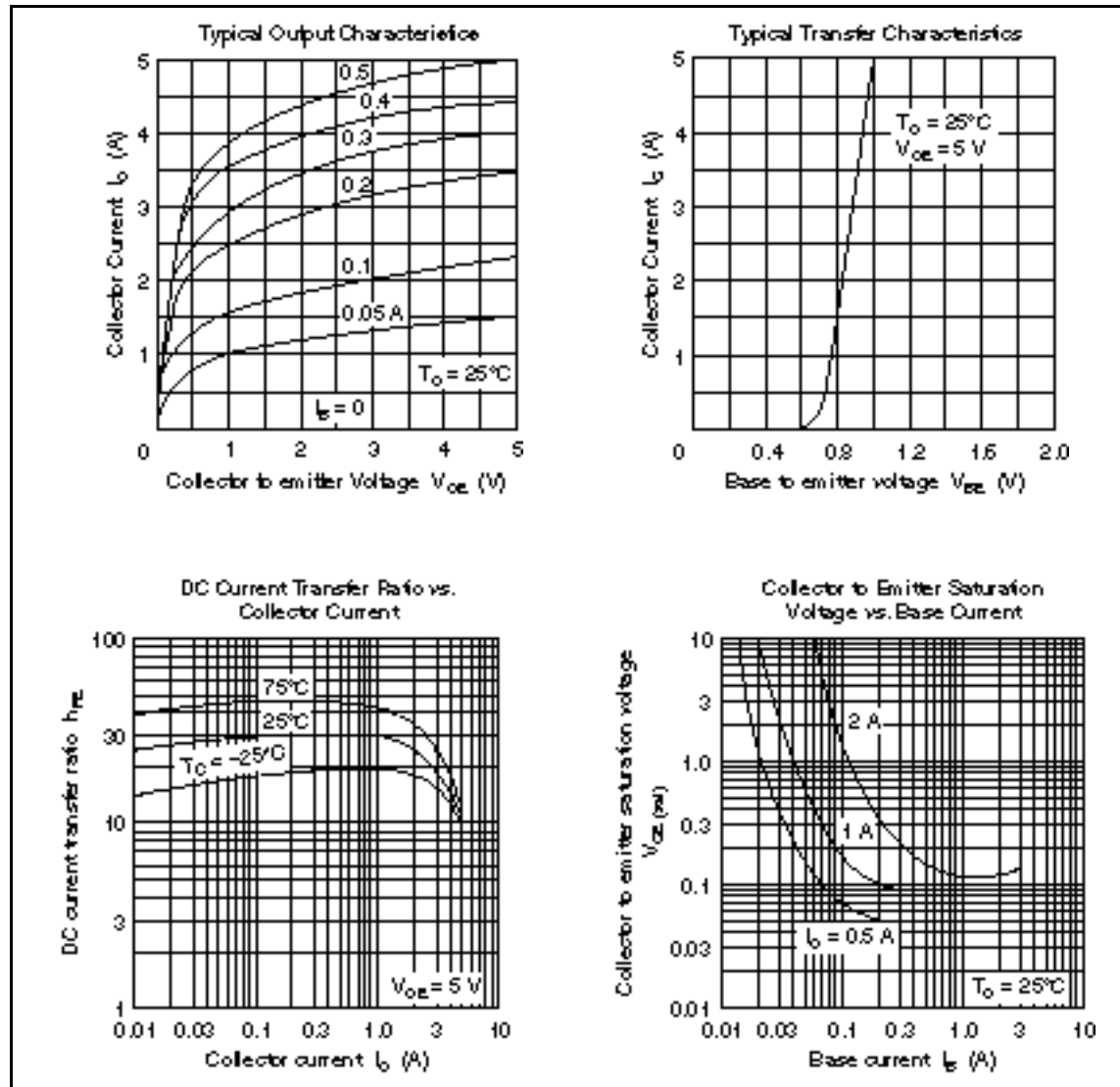
### Electrical Characteristics (Ta = 25°C)

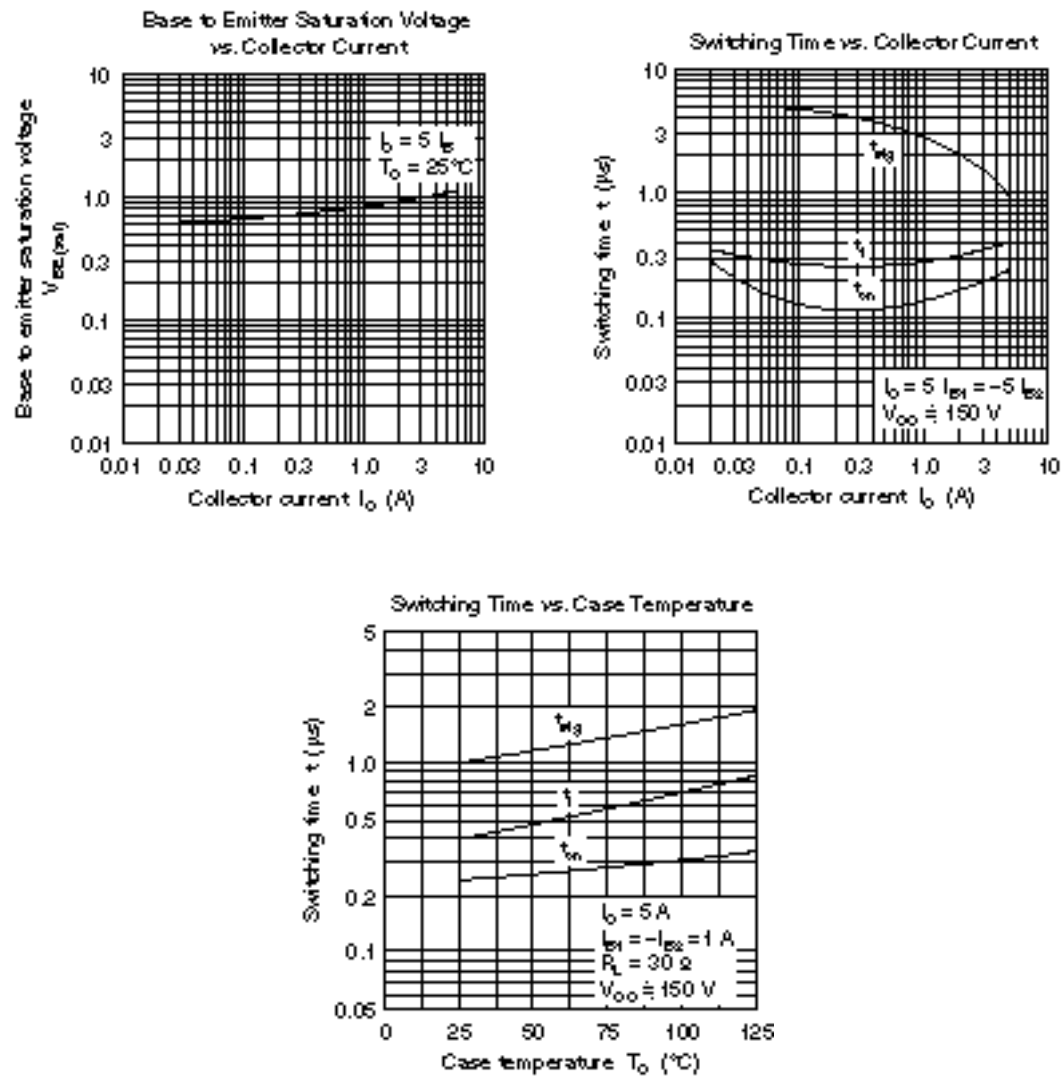
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter sustain voltage	$V_{CEO(sus)}$	400	—	—	V	$I_C = 0.2\text{ A}$ , $R_{BE} = \text{ } , L = 100\text{ mH}$
	$V_{CEX(sus)}$	400	—	—	V	$I_C = 5\text{ A}$ , $I_{B1} = -I_{B2} = 1\text{ A}$ $V_{BE} = -5\text{ V}$ , $L = 180\text{ }\mu\text{H}$ , Clamped
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 10\text{ mA}$ , $I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	100	$\mu\text{A}$	$V_{CB} = 400\text{ V}$ , $I_E = 0$
	$I_{CEO}$	—	—	100	$\mu\text{A}$	$V_{CE} = 350\text{ V}$ , $R_{BE} = \text{ }$
DC current transfer ratio	$h_{FE1}$	15	—	—		$V_{CE} = 5\text{ V}$ , $I_C = 2.5\text{ A}^{*1}$
	$h_{FE2}$	7	—	—		$V_{CE} = 5\text{ V}$ , $I_C = 5\text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.0	V	$I_C = 2.5\text{ A}$ , $I_B = 0.5\text{ A}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.5	V	$I_C = 2.5\text{ A}$ , $I_B = 0.5\text{ A}^{*1}$
Turn on time	$t_{on}$	—	—	1.0	$\mu\text{s}$	$I_C = 5\text{ A}$ , $I_{B1} = -I_{B2} = 1\text{ A}$ , $V_{CC} = 150\text{ V}$
Storage time	$t_{stg}$	—	1.2	2.5	$\mu\text{s}$	
Fall time	$t_f$	—	—	1.0	$\mu\text{s}$	

Note: 1. Pulse test.









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