

# 2SC2979

Silicon NPN Triple Diffused

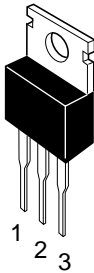
# HITACHI

## Application

High voltage, high speed and high power switching

## Outline

TO-220AB



1. Base
2. Collector (Flange)
3. Emitter

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

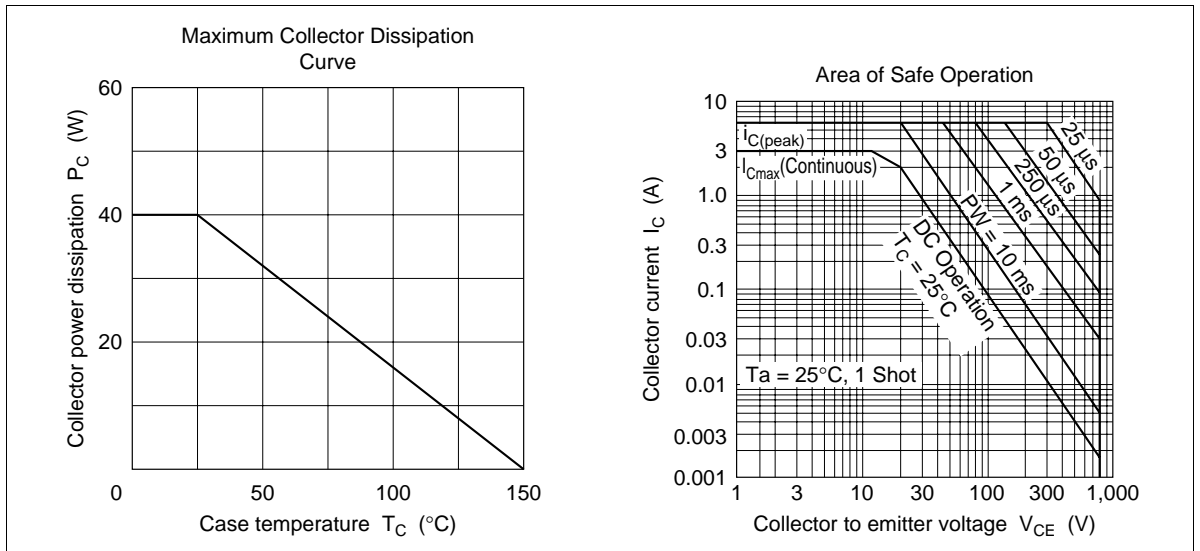
Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	900	V
Collector to emitter voltage	$V_{CEO}$	800	V
Emitter to base voltage	$V_{EBO}$	7	V
Collector current	$I_C$	3	A
Collector peak current	$I_{C(peak)}$	6	A
Base current	$I_B$	1.5	A
Collector power dissipation	$P_C^{*1}$	40	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

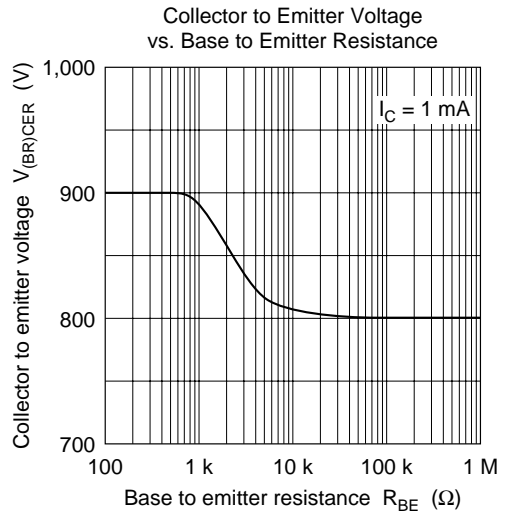
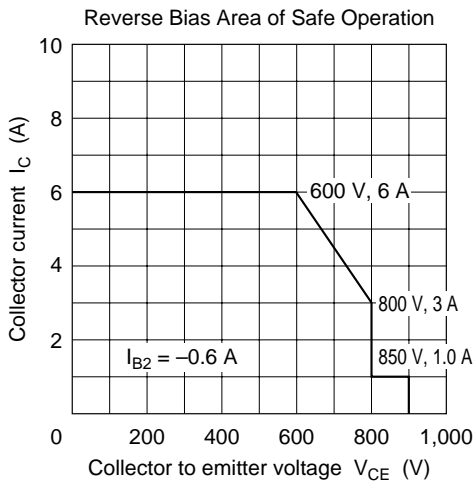
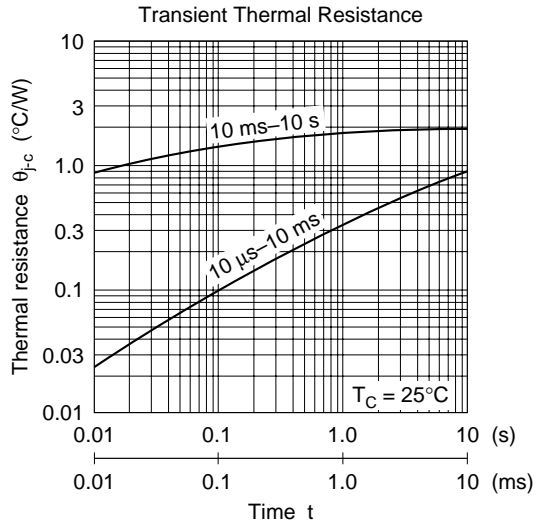
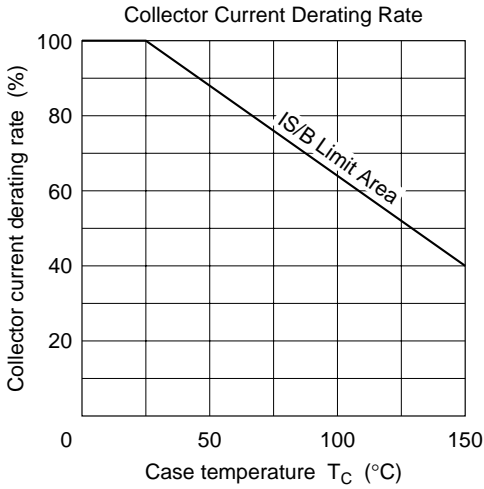
Note: 1. Value at  $T_C = 25^\circ\text{C}$ .

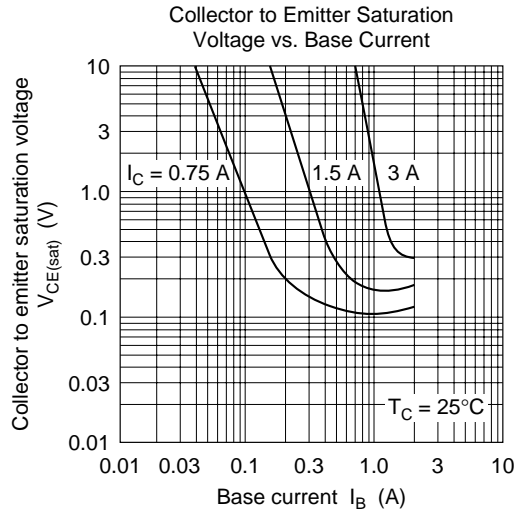
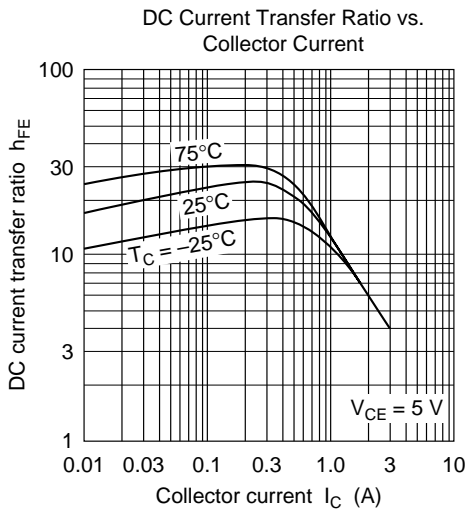
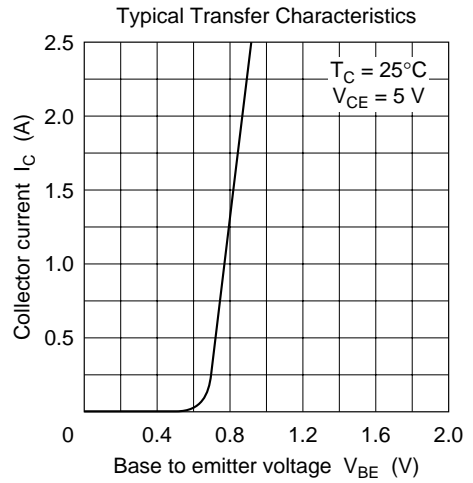
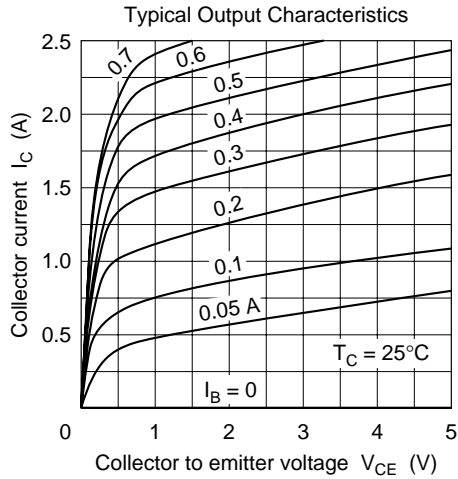
## Electrical Characteristics (Ta = 25°C)

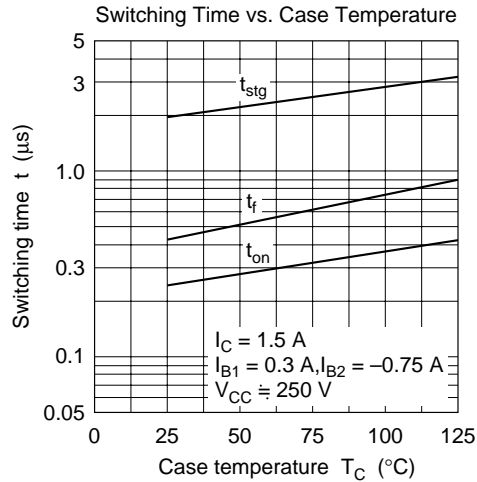
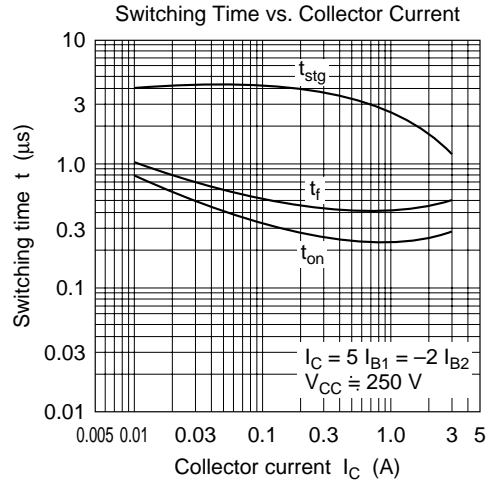
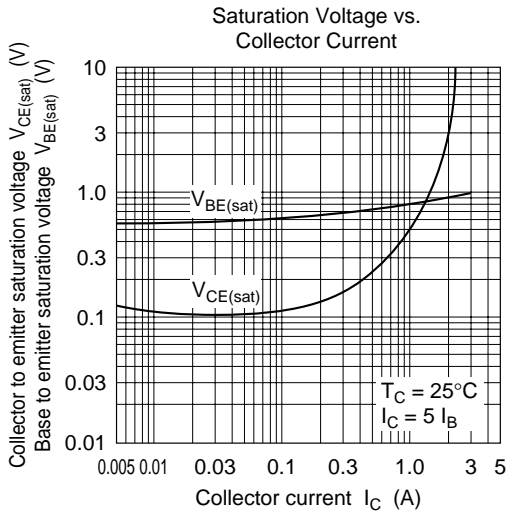
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter sustain voltage	$V_{CEO(sus)}$	800	—	—	V	$I_C = 0.2 \text{ A}$ , $R_{BE} = \infty$ , $L = 100 \text{ mH}$
	$V_{CEX(sus)}$	800	—	—	V	$I_C = 3 \text{ A}$ , $I_{B1} = 0.9 \text{ A}$ , $I_{B2} = -0.6 \text{ A}$ , $V_{BE} = -5.0 \text{ V}$ , $L = 180 \mu\text{H}$ , 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	$\mu\text{A}$	$V_{CB} = 750 \text{ V}$ , $I_E = 0$
	$I_{CEO}$	—	—	100	$\mu\text{A}$	$V_{CE} = 650 \text{ V}$ , $R_{BE} = \infty$
DC current transfer ratio	$h_{FE1}$	15	—	—		$V_{CE} = 5 \text{ V}$ , $I_C = 0.3 \text{ A}^{*1}$
	$h_{FE2}$	7	—	—		$V_{CE} = 5 \text{ V}$ , $I_C = 1.5 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.0	V	$I_C = 0.75 \text{ A}$ , $I_B = 0.15 \text{ A}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.5	V	
Turn on time	$t_{on}$	—	—	1.0	$\mu\text{s}$	$I_C = 1.5 \text{ A}$ , $I_{B1} = 0.3 \text{ A}$ ,
Storage time	$t_{stg}$	—	—	3.0	$\mu\text{s}$	$I_{B2} = -0.75 \text{ A}$ , $V_{CC} \cong 250 \text{ V}$
Fall time	$t_f$	—	—	1.0	$\mu\text{s}$	

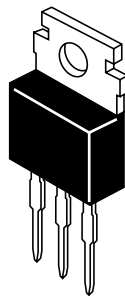
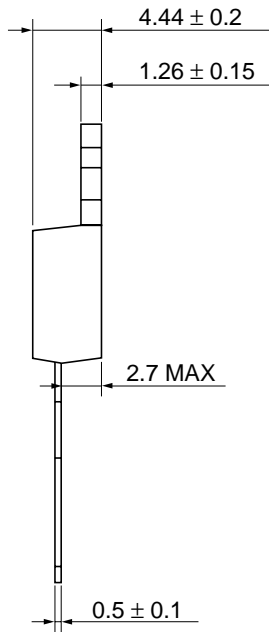
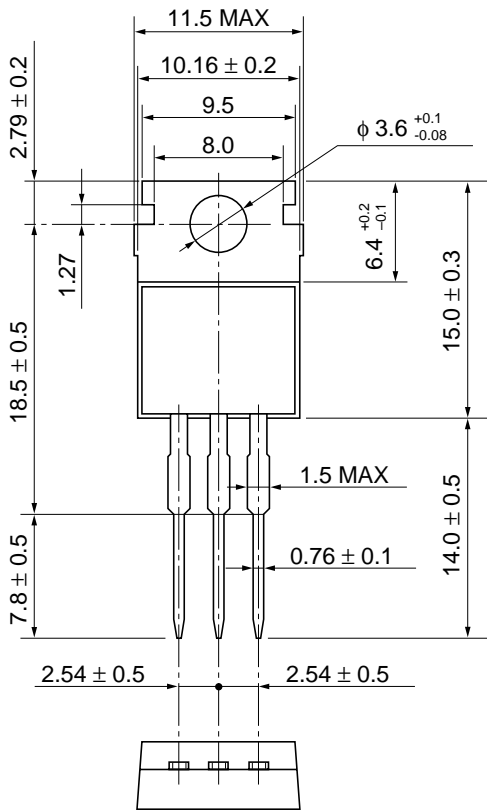
Note: 1. Pulse test











Hitachi Code	TO-220AB
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	1.8 g

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