

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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EOL announced Product

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To all our customers

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The semiconductor operations of Mitsubishi Electric and Hitachi were transferred to Renesas Technology Corporation on April 1st 2003. These operations include microcomputer, logic, analog and discrete devices, and memory chips other than DRAMs (flash memory, SRAMs etc.) Accordingly, although Hitachi, Hitachi, Ltd., Hitachi Semiconductors, and other Hitachi brand names are mentioned in the document, these names have in fact all been changed to Renesas Technology Corp. Thank you for your understanding. Except for our corporate trademark, logo and corporate statement, no changes whatsoever have been made to the contents of the document, and these changes do not constitute any alteration to the contents of the document itself.

Renesas Technology Home Page: <http://www.renesas.com>

Renesas Technology Corp.  
Customer Support Dept.  
April 1, 2003

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# 2SC2979

Silicon NPN Triple Diffused

## RENESAS

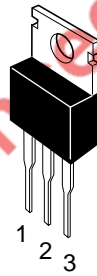
ADE-208-890 (Z)  
1st. Edition  
September 2000

### 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)

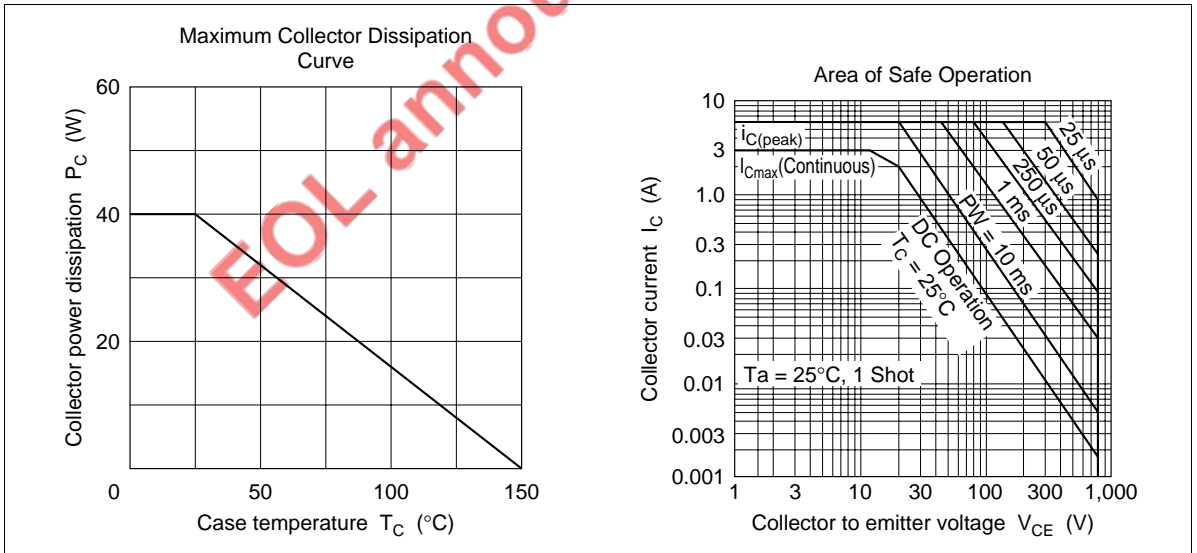
Item	Symbol	Rated	Unit
Collector to base voltage	$V_{CBO}$	900	V
Collector to emitter voltage	$V_{CEO}$	800	V
Emitter to base voltage	$V_{EBO}$	7	V
Collector current	$I_C$	3	A
Collector peak current	$I_{C(peak)}$	6	A
Base current	$I_B$	1.5	A
Collector power dissipation	$P_C^{*1}$	40	W
Junction temperature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

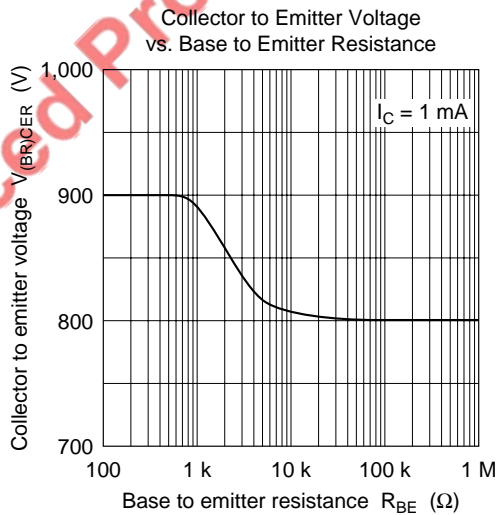
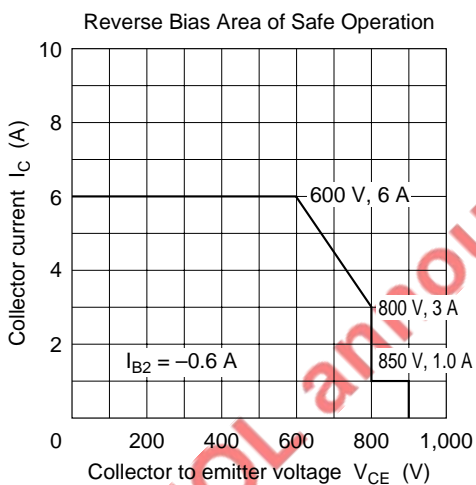
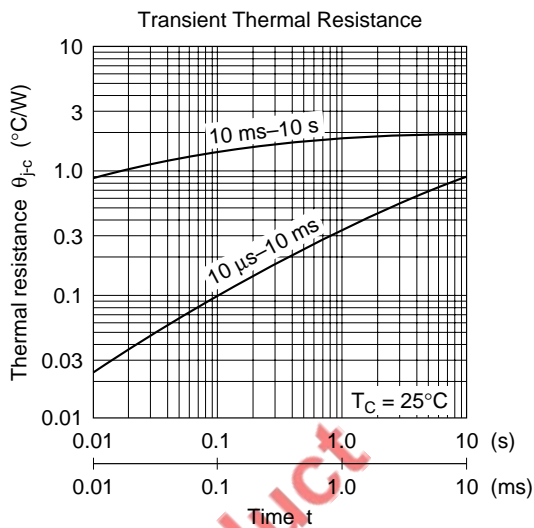
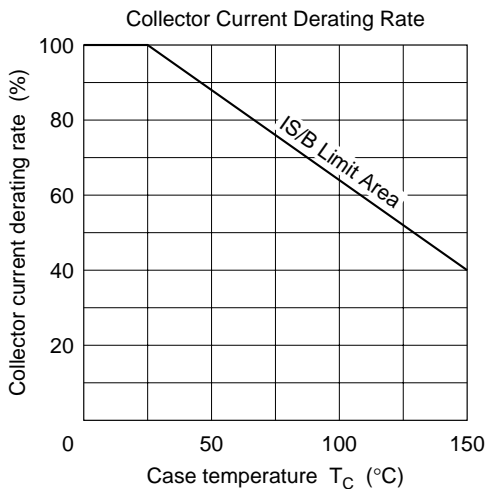
Note: 1. Value at  $T_C = 25^\circ\text{C}$ .

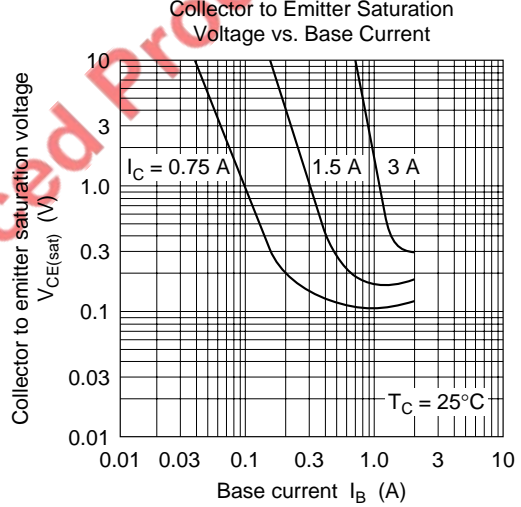
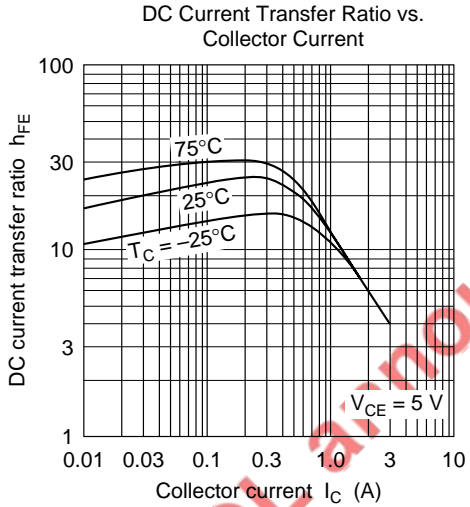
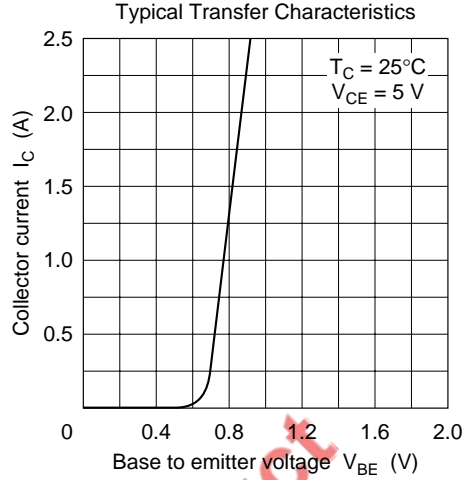
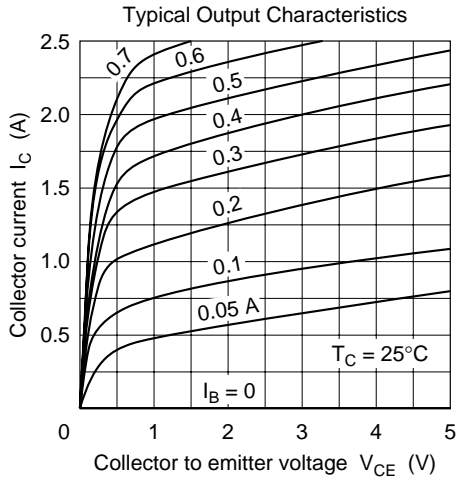
Electrical Characteristics (Ta = 25°C)

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	$I_C = 3\text{ A}$ , $I_{B1} = 0.9\text{ A}$ , $I_{B2} = -0.6\text{ A}$ , $V_{BE} = -5.0\text{ V}$ , $L = 180\text{ }\mu\text{H}$ , 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	$\mu\text{A}$	$V_{CB} = 750\text{ V}$ , $I_E = 0$
	$I_{CEO}$	—	—	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

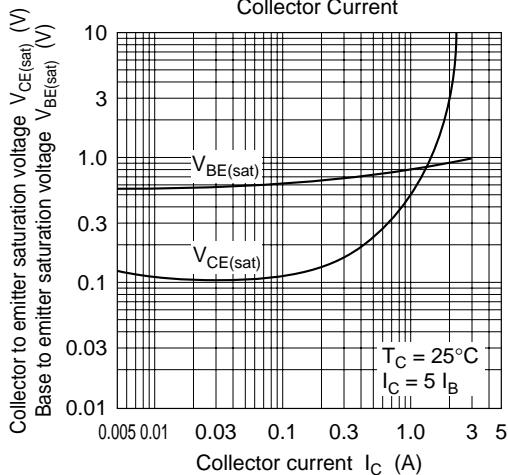




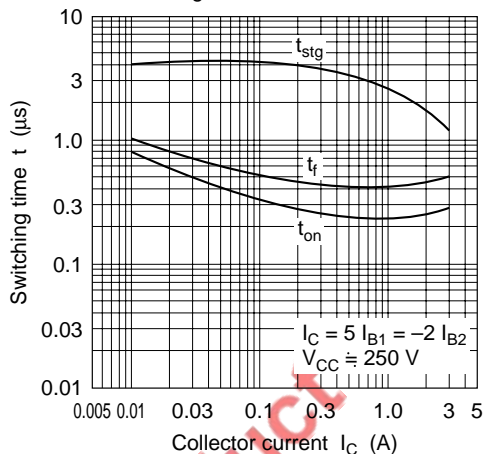




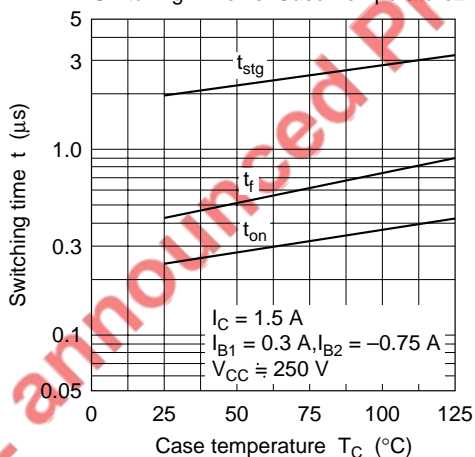
Saturation Voltage vs. Collector Current



Switching Time vs. Collector Current



Switching Time vs. Case Temperature



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