To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

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

April 1st, 2010
Renesas Electronics Corporation

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

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

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

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2SC4647

Silicon NPN Triple Diffused

RENESAS

Application

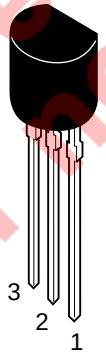
High voltage amplifier

Features

- High break down voltage
  $V_{(BR)CEO}$ = 300 V min.

Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

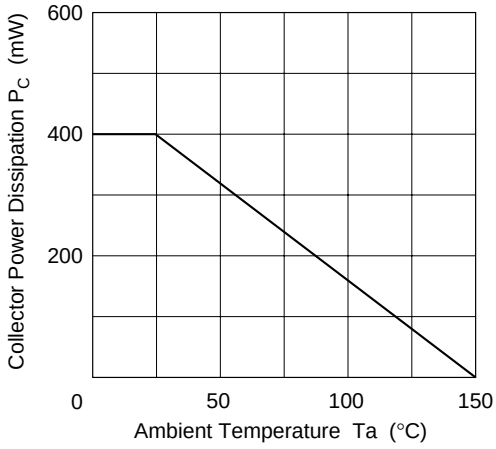
Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	300	V
Collector to emitter voltage	V_{CEO}	300	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	100	mA
Collector power dissipation	P_C	400	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

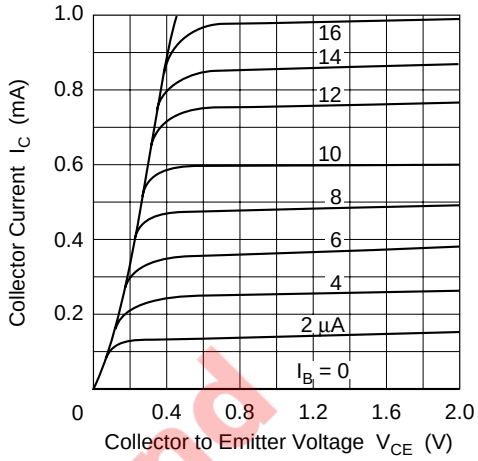
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	300	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	300	—	—	V	I_C = 1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	1.0	µA	V_{CB} = 250 V, R_{BE} = ∞
DC current transfer ratio	h_{FE}	30	—	200		V_{CE} = 20 V, I_C = 20 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	I_C = 20 mA, I_B = 2 mA
Gain bandwidth product	f_T	50	—	—	MHz	V_{CE} = 20 V, I_C = 20 mA
Collector output capacitance	Cob	—	—	4.0	pF	V_{CE} = 20 V, I_E = 0, f = 1 MHz

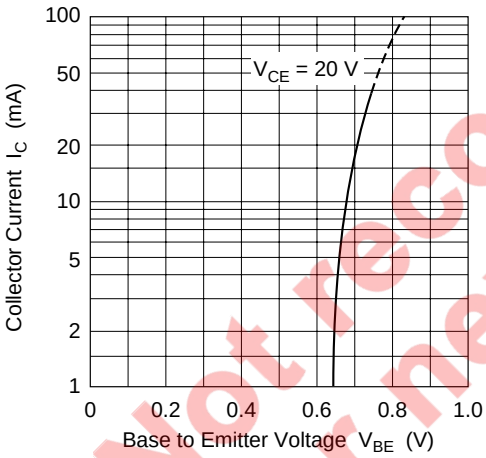
Maximum Collector Dissipation Curve



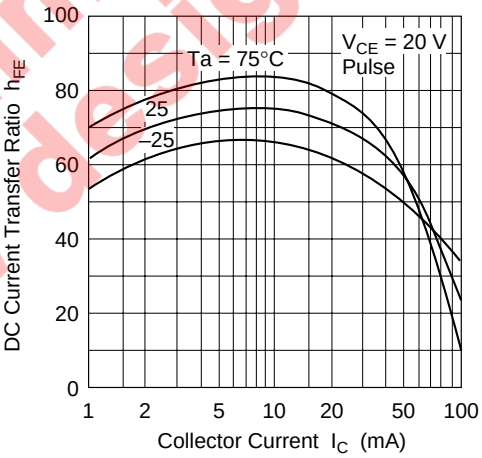
Typical Output Characteristics



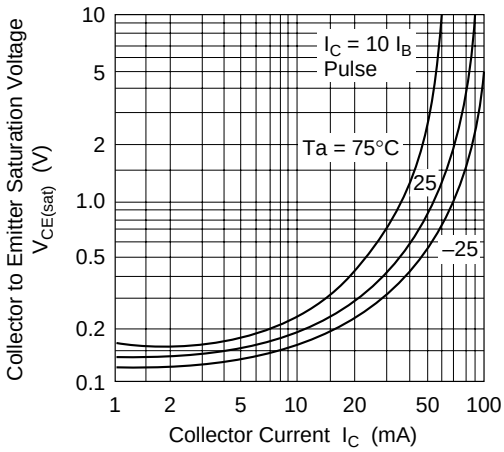
Typical Transfer Characteristics



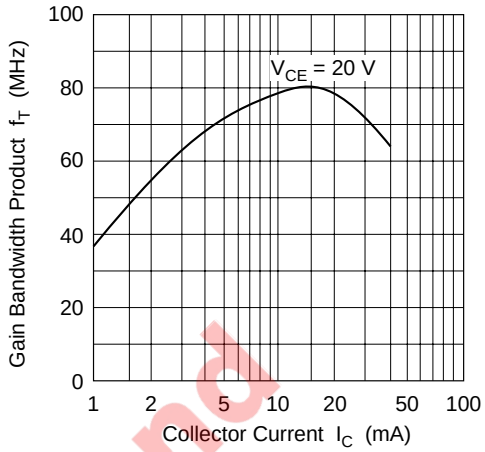
DC Current Transfer Ratio vs. Collector Current



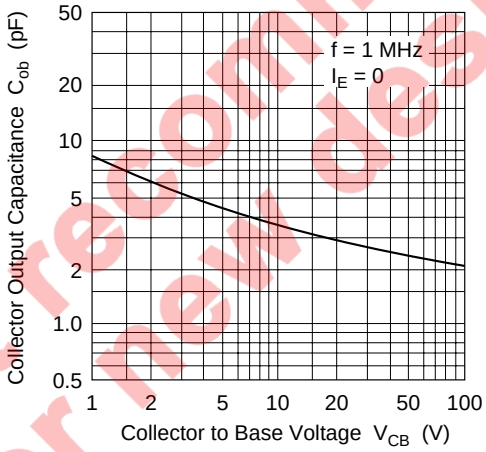
Collector to Emitter Saturation vs. Collector Current



Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage



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