

To all our customers

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

Cautions

Keep safety first in your circuit designs!

1. Renesas Technology Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage.

Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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2SD2263

Silicon NPN Epitaxial

RENESAS

ADE-208-1167 (Z)

1st. Edition

Mar. 2001

Application

Low frequency power amplifier

Features

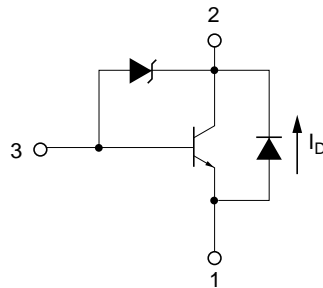
- Built in zener diode for surge absorb.
- Suitable for relay drive with small power loss.

Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base



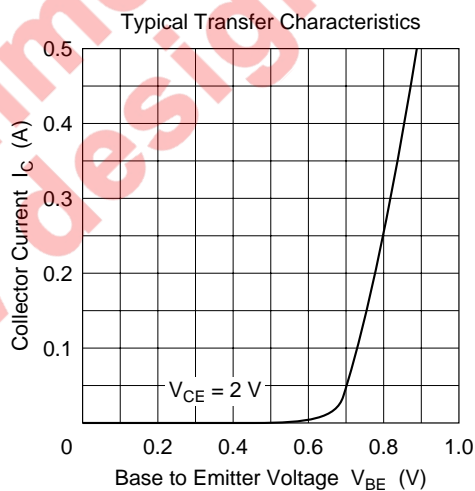
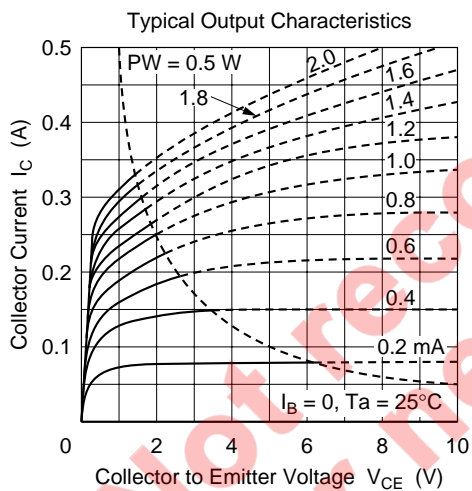
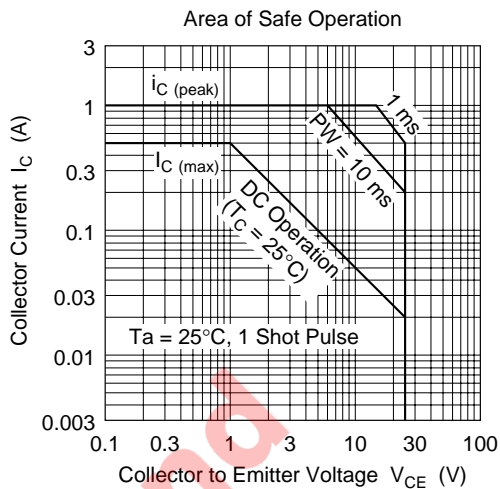
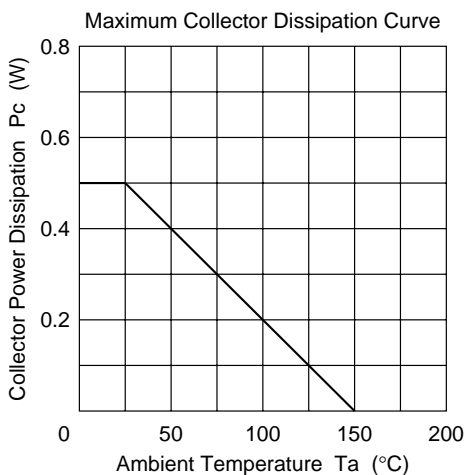
Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rated	Unit
Collector to base voltage	V_{CBO}	25	V
Collector to emitter voltage	V_{CEO}	25	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	0.5	A
Collector peak current	$i_{C(peak)}$	1.0	A
E to C diode current	I_D	0.5	A
Collector power dissipation	P_C	0.5	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

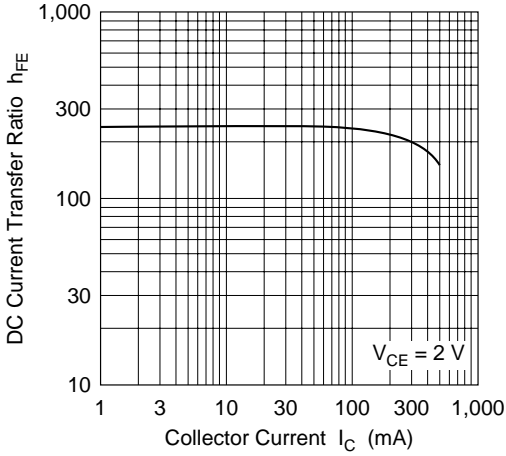
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	25	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	25	—	35	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Collector to emitter sustaining voltage	$V_{CEO(sus)}$	26	—	36	V	$I_C = 0.5 \text{ A}, R_{BE} = \infty, L = 20 \text{ mH}$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	0.2	μA	$V_{CB} = 20 \text{ V}, I_E = 0$
	I_{CEO}	—	—	0.5	μA	$V_{CE} = 20 \text{ V}, R_{BE} = \infty$
Emitter cutoff current	I_{EBO}	—	—	0.2	μA	$V_{EB} = 5 \text{ V}, I_C = 0$
DC current transfer ratio	h_{FE1}	100	—	500		$V_{CE} = 2 \text{ V}, I_C = 50 \text{ mA}^{*1}$
	h_{FE2}	50	—	—		$V_{CE} = 2 \text{ V}, I_C = 0.5 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.5	V	$I_C = 0.5 \text{ A}^{*1}, I_B = 50 \text{ mA}$
E to C diode forward voltage	V_D	—	—	1.2	V	$I_E = 0.5 \text{ A}^{*1}$

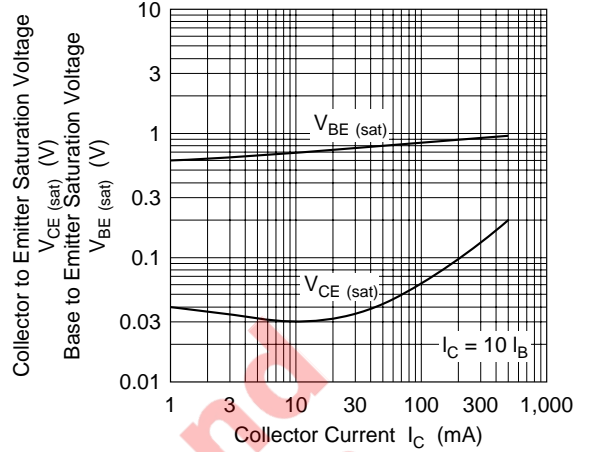
Note: 1. Pulse test



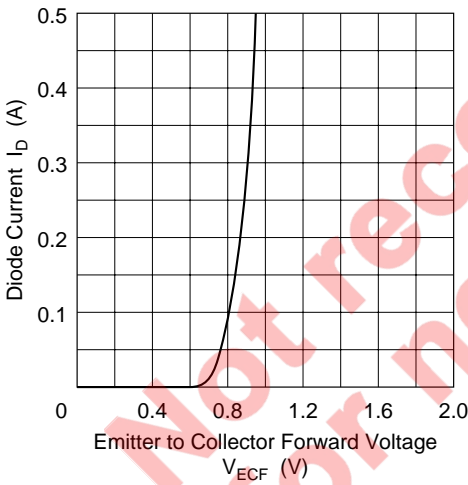
DC Current Transfer Ratio vs. Collector Current



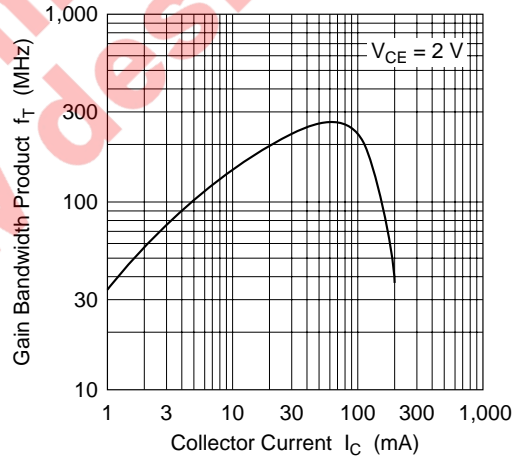
Saturation Voltage vs. Collector Current

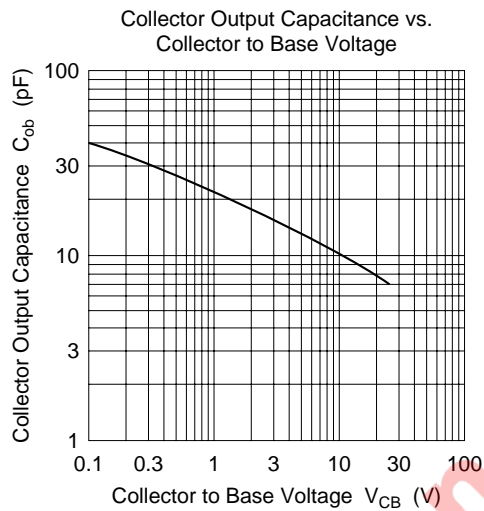


Typical Characteristics of Emitter to Collector Diode



Gain Bandwidth Product vs. Collector Current



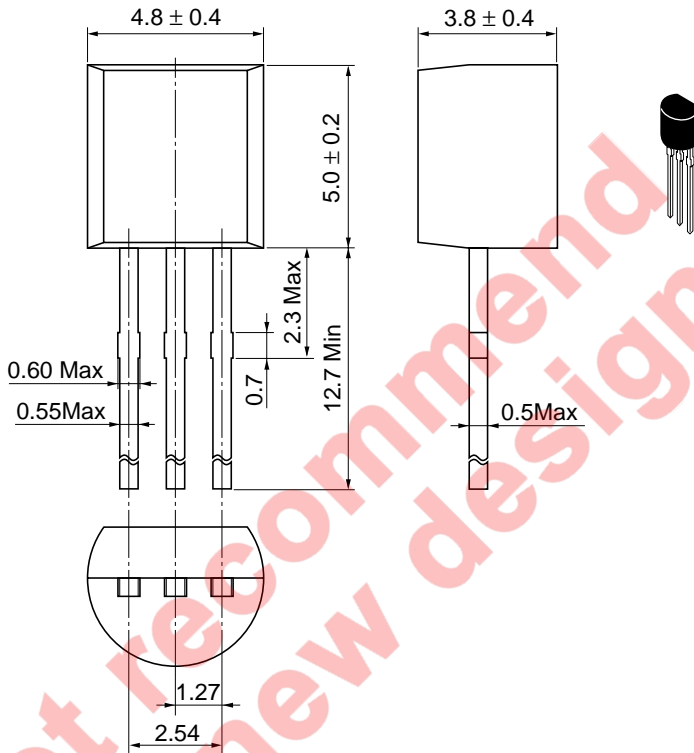


Not recommended
for new design

Package Dimensions

As of January, 2001

Unit: mm



Hitachi Code	TO-92 (1)
JEDEC	Conforms
EIAJ	Conforms
Mass (reference value)	0.25 g

Cautions

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