

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

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Not recommended  
for new design

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To all our customers

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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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# 2SD1922

Silicon NPN Epitaxial

RENESAS

ADE-208-1160 (Z)

1st. Edition

Mar. 2001

## Application

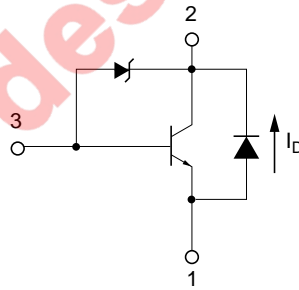
Low frequency power amplifier

## Outline

TO-92MOD



- 1. Emitter
- 2. Collector
- 3. Base



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

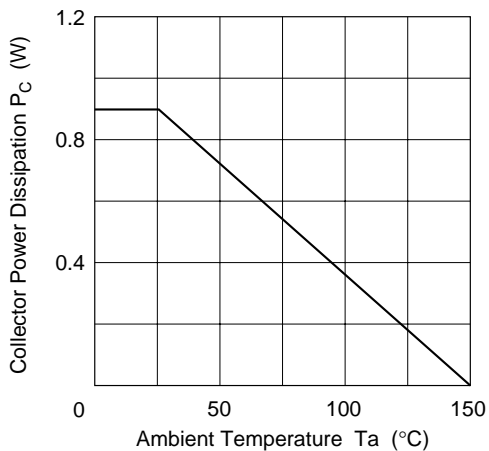
Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	25	V
Collector to emitter voltage	$V_{CEO}$	25	V
Emitter to base voltage	$V_{EBO}$	6	V
Collector current	$I_C$	0.8	A
Collector peak current	$i_{c (peak)}$	1.5	A
E to C diode forward current	$I_D$	0.8	A
Collector power dissipation	$P_C$	0.9	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

## Electrical Characteristics (Ta = 25°C)

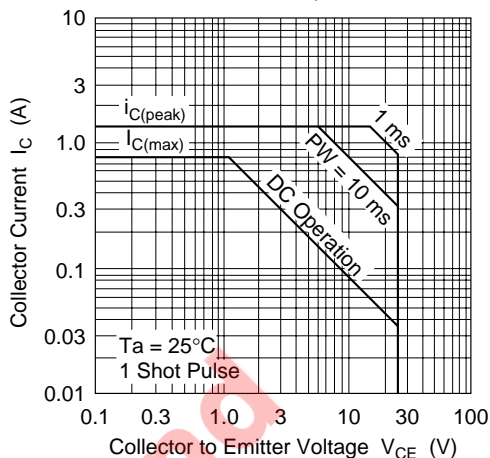
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	25	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	25	—	35	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Collector to emitter sustaining voltage	$V_{CEO(sus)}$	25	—	35	V	$I_C = 0.8 \text{ A}, R_{BE} = \infty, L = 20 \text{ mH}$
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	$\mu A$	$V_{CB} = 20 \text{ V}, I_E = 0$
	$I_{CEO}$	—	—	0.5	$\mu A$	$V_{CE} = 20 \text{ V}, R_{BE} = \infty$
Emitter cutoff current	$I_{EBO}$	—	—	0.2	$\mu A$	$V_{EB} = 5 \text{ V}, I_C = 0$
DC current transfer ratio	$h_{FE}$	250	—	1200		$V_{CE} = 2 \text{ V}, I_C = 0.1 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	$I_C = 0.8 \text{ A}, I_B = 80 \text{ mA}^{*1}$
E to C diode forward voltage	$V_D$	—	—	1.1	V	$I_D = 0.8 \text{ A}^{*1}$

Note: 1. Pulse test

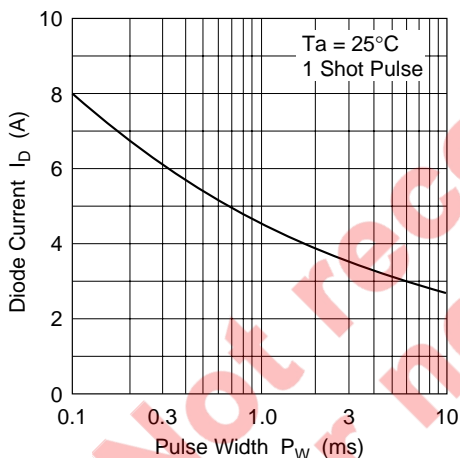
Maximum Collector Dissipation Curve



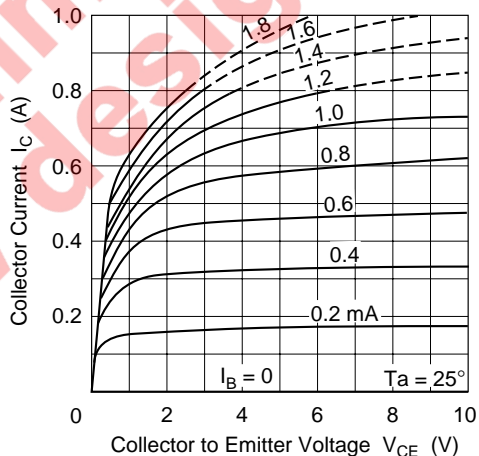
Area of Safe Operation

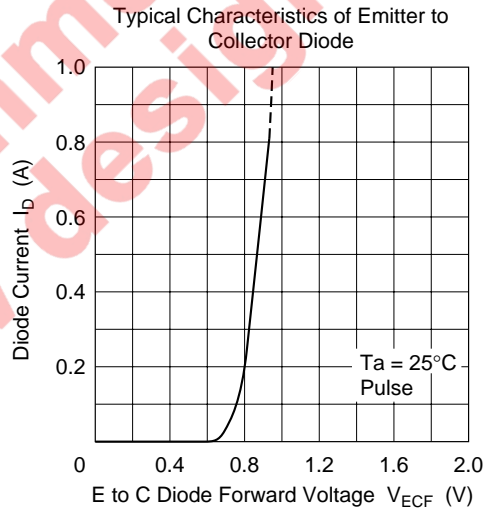
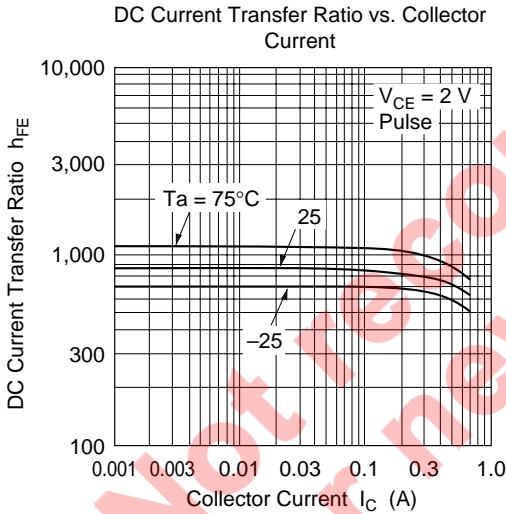
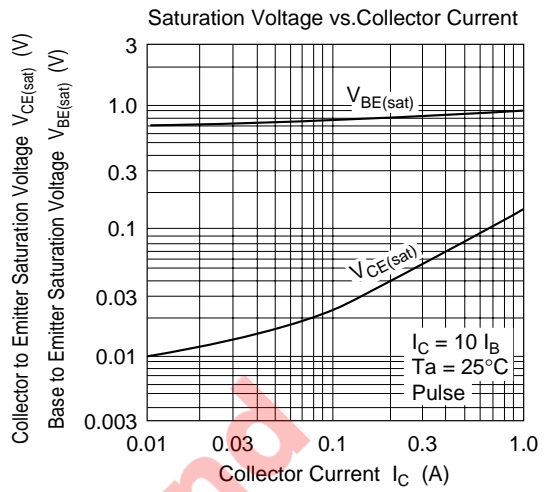
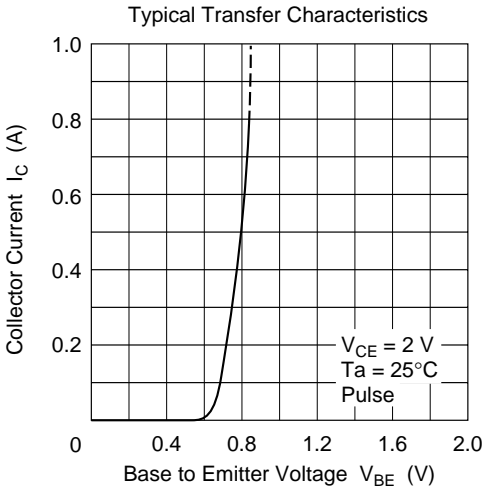


Area of Safe Operation of Emitter to Collector Diode

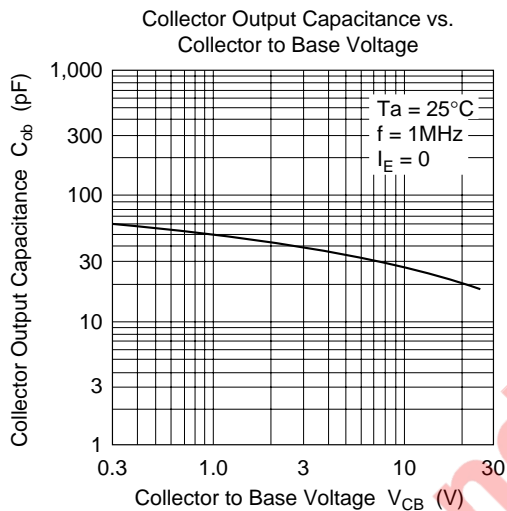


Typical Output Characteristics





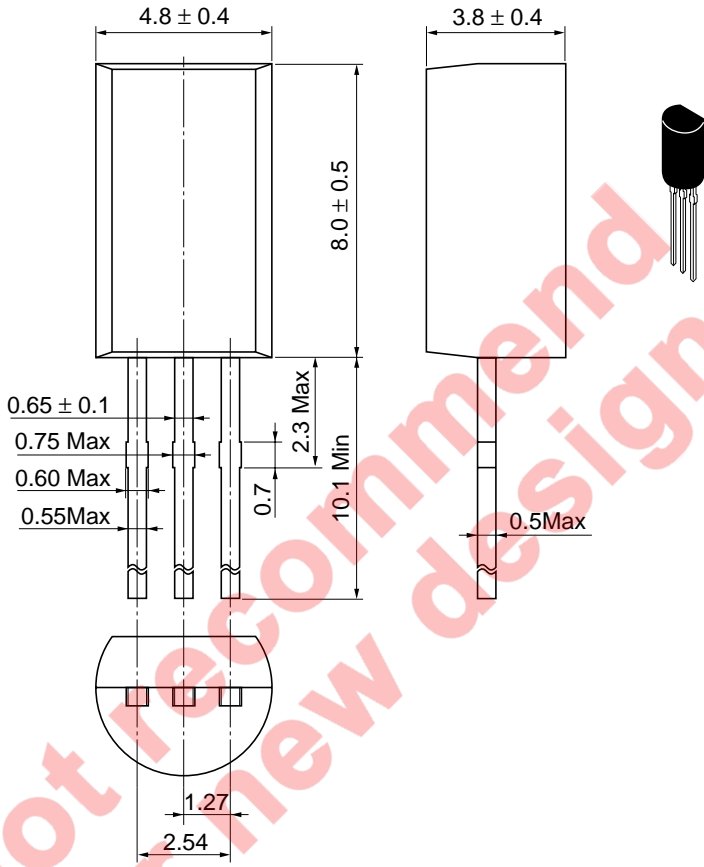




Not recommended  
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Package Dimensions

As of January, 2001  
Unit: mm



Hitachi Code	TO-92 Mod
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.35 g

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