

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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2SD1922

Silicon NPN Epitaxial

RENESAS

ADE-208-1160 (Z)

1st. Edition

Mar. 2001

Application

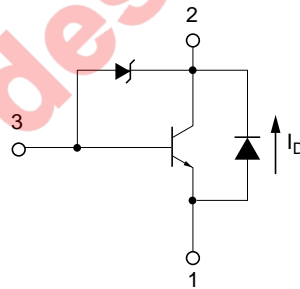
Low frequency power amplifier

Outline

TO-92MOD



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



Absolute Maximum Ratings (Ta = 25°C)

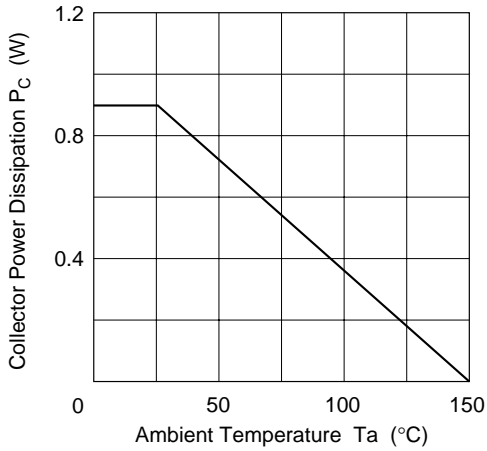
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	25	V
Collector to emitter voltage	V_{CEO}	25	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	0.8	A
Collector peak current	$i_{c (peak)}$	1.5	A
E to C diode forward current	I_D	0.8	A
Collector power dissipation	P_C	0.9	W
Junction temperature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

Electrical Characteristics (Ta = 25°C)

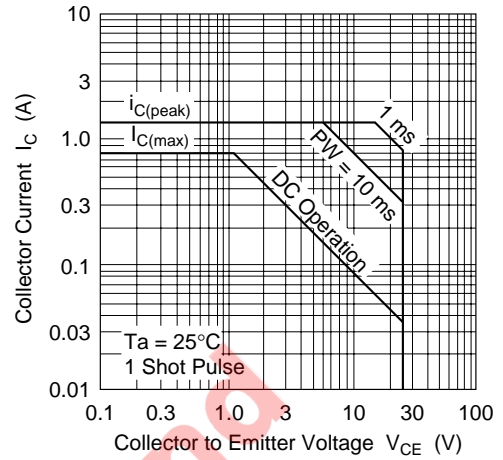
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	25	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	25	—	35	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Collector to emitter sustaining voltage	$V_{CEO(sus)}$	25	—	35	V	$I_C = 0.8 \text{ A}, R_{BE} = \infty, L = 20 \text{ mH}$
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	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_{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

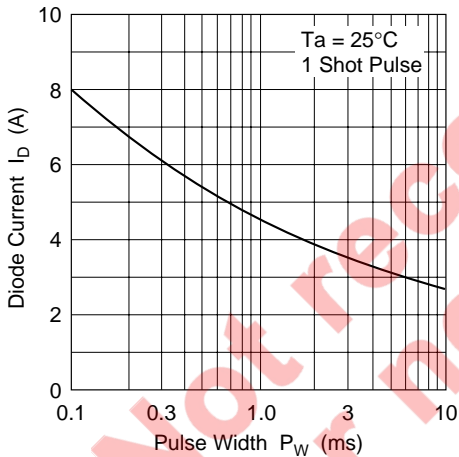
Maximum Collector Dissipation Curve



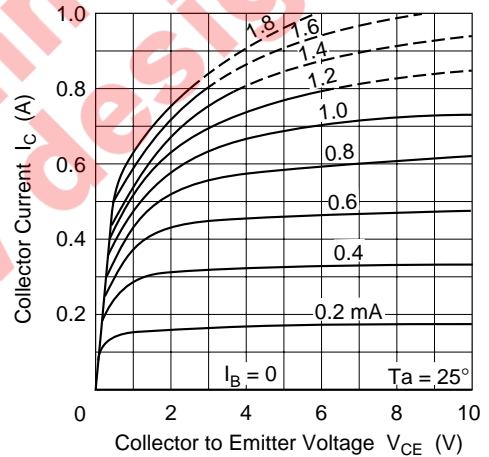
Area of Safe Operation



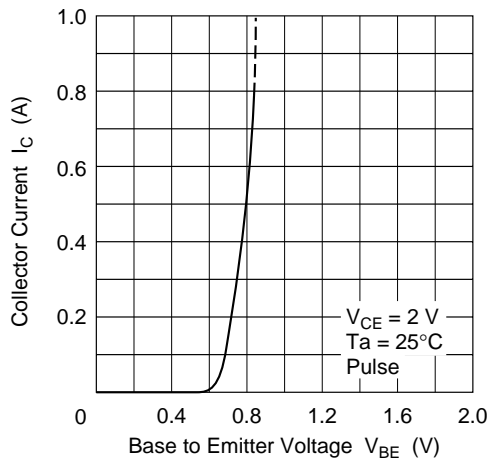
Area of Safe Operation of Emitter to Collector Diode



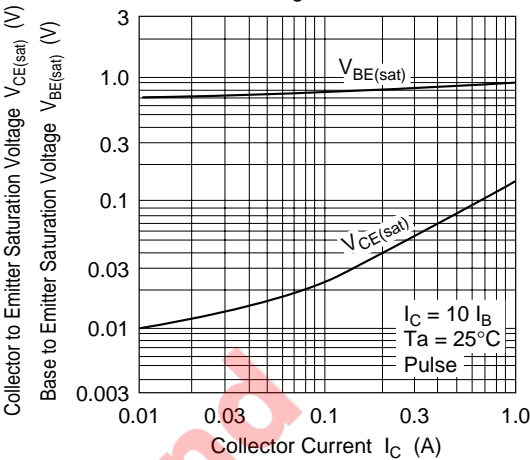
Typical Output Characteristics



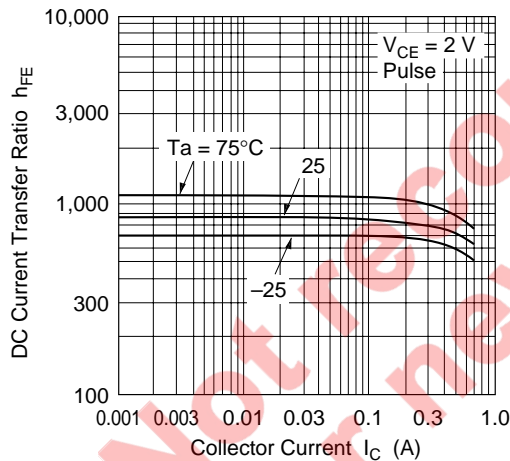
Typical Transfer Characteristics



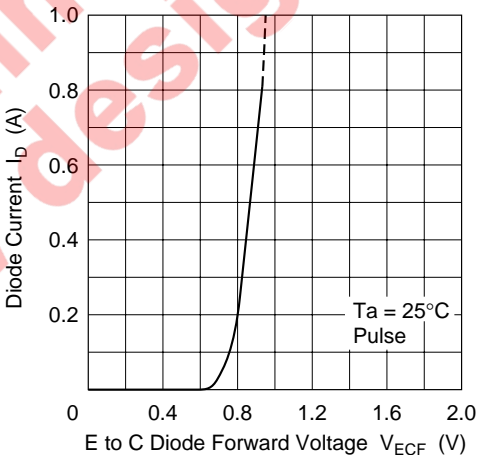
Saturation Voltage vs. Collector Current

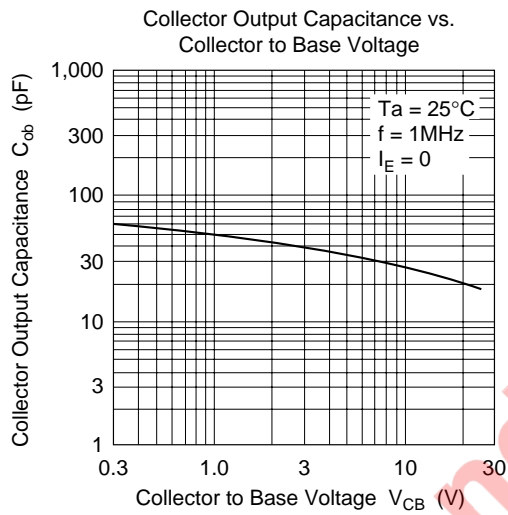


DC Current Transfer Ratio vs. Collector Current



Typical Characteristics of Emitter to Collector Diode





Not recommended
for new design

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