

To all our customers

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

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Keep safety first in your circuit designs!

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# 2SD667, 2SD667A

Silicon NPN Epitaxial

**RENESAS**

ADE-208-1137 (Z)

1st. Edition

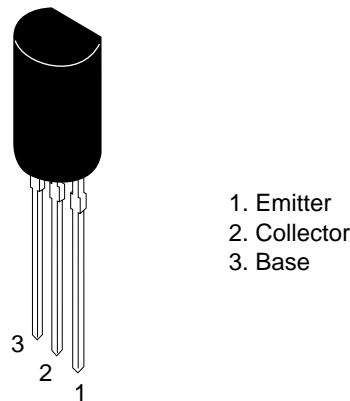
Mar. 2001

## Application

- Low frequency power amplifier
- Complementary pair with 2SB647/A

## Outline

TO-92MOD



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

Item	Symbol	2SD667	2SD667A	Unit
Collector to base voltage	V <sub>CBO</sub>	120	120	V
Collector to emitter voltage	V <sub>CEO</sub>	80	100	V
Emitter to base voltage	V <sub>EBO</sub>	5	5	V
Collector current	I <sub>C</sub>	1	1	A
Collector peak current	i <sub>C(peak)</sub>	2	2	A
Collector power dissipation	P <sub>C</sub>	0.9	0.9	W
Junction temperature	T <sub>J</sub>	150	150	°C
Storage temperature	T <sub>Stg</sub>	−55 to +150	−50 to +150	°C

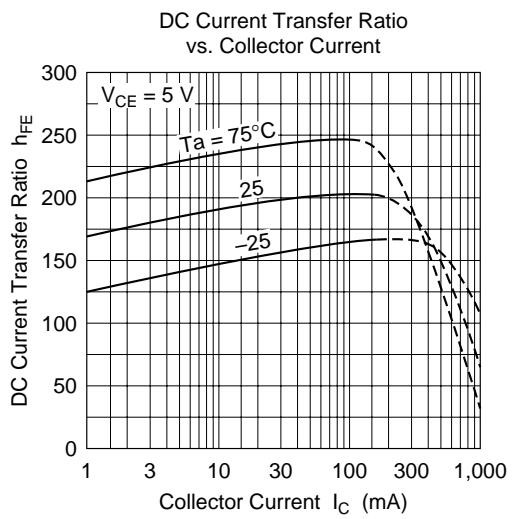
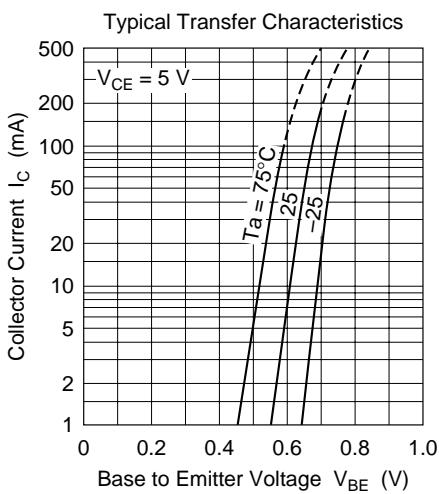
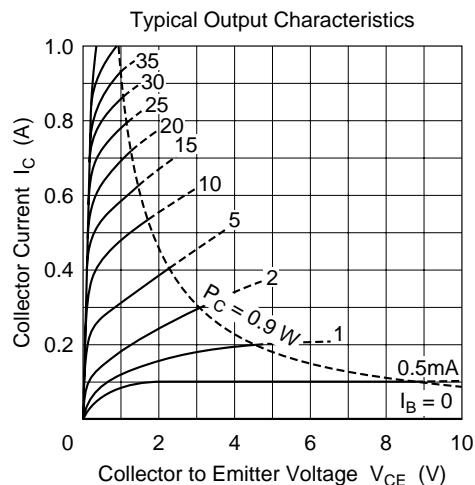
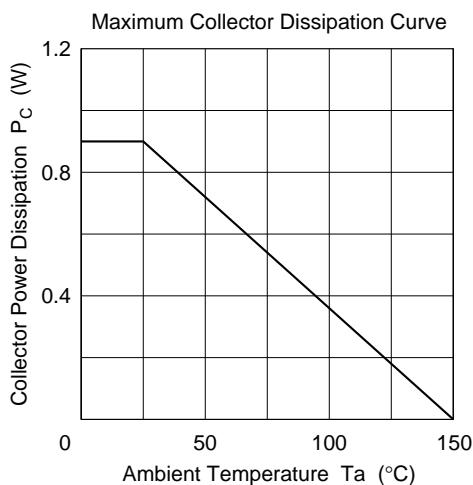
## Electrical Characteristics (Ta = 25°C)

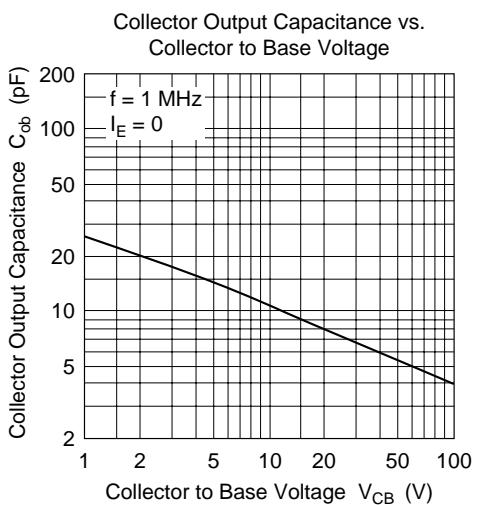
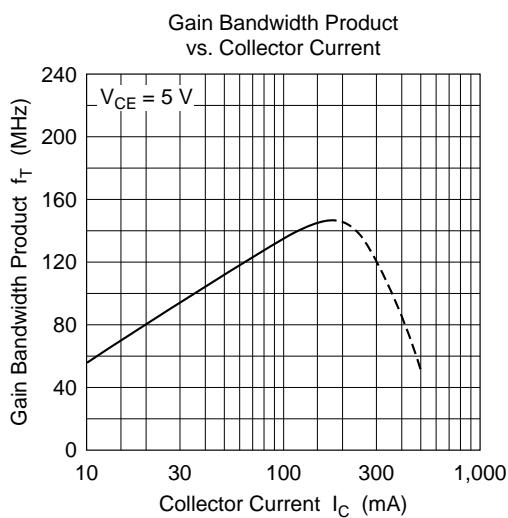
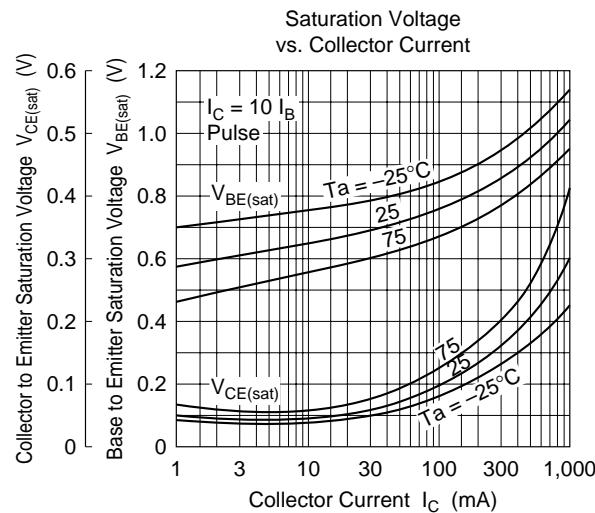
Item	Symbol	2SD667			2SD667A			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	V <sub>(BR)CBO</sub>	120	—	—	120	—	—	V	I <sub>C</sub> = 10 μA, I <sub>E</sub> = 0
Collector to emitter breakdown voltage	V <sub>(BR)CEO</sub>	80	—	—	100	—	—	V	I <sub>C</sub> = 1 mA, R <sub>BE</sub> = ∞
Emitter to base breakdown voltage	V <sub>(BR)EBO</sub>	5	—	—	5	—	—	V	I <sub>E</sub> = 10 μA, I <sub>C</sub> = 0
Collector cutoff current	I <sub>CBO</sub>	—	—	10	—	—	10	μA	V <sub>CB</sub> = 100 V, I <sub>E</sub> = 0
DC current transfer ratio	h <sub>FE1</sub> * <sup>1</sup>	60	—	320	60	—	200		V <sub>CE</sub> = 5 V, I <sub>C</sub> = 150 mA* <sup>2</sup>
	h <sub>FE2</sub>	30	—	—	30	—	—		V <sub>CE</sub> = 5 V, I <sub>C</sub> = 500 mA* <sup>2</sup>
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	—	—	1	—	—	1	V	I <sub>C</sub> = 500 mA, I <sub>B</sub> = 50 mA* <sup>2</sup>
Base to emitter voltage	V <sub>BE</sub>	—	—	1.5	—	—	1.5	V	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 150 mA* <sup>2</sup>
Gain bandwidth product	f <sub>T</sub>	—	140	—	—	140	—	MHz	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 150 mA* <sup>2</sup>
Collector output capacitance	C <sub>ob</sub>	—	12	—	—	12	—	pF	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz

Notes: 1. The 2SD667 and 2SD667A are grouped by h<sub>FE1</sub> as follows.

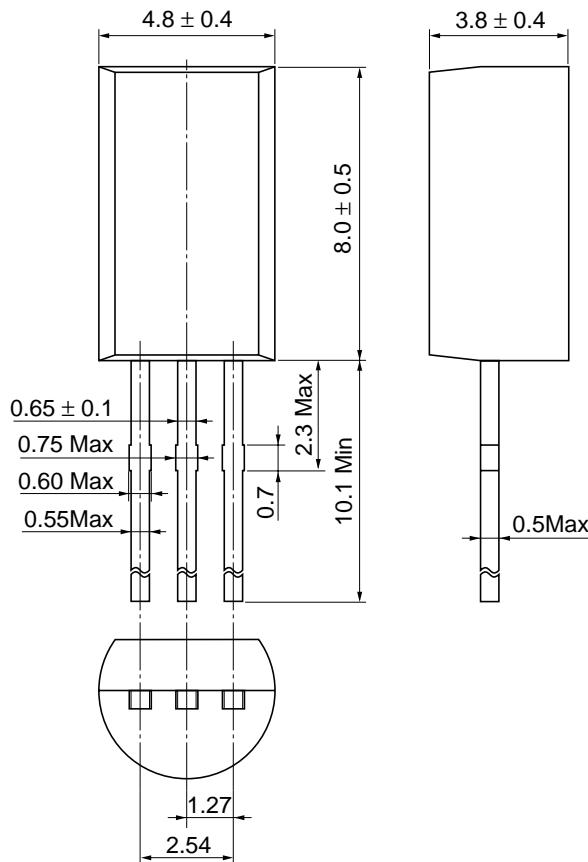
2. Pulse test

	B	C	D
2SD667	60 to 120	100 to 200	160 to 320
2SD667A	60 to 120	100 to 200	





## 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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