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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2SD667, 2SD667A

Silicon NPN Epitaxial

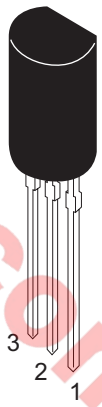
REJ03G0769-0200
(Previous ADE-208-1137)
Rev.2.00
Aug.10.2005

Application

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

Outline

RENESAS Package code: PRSS0003DC-A
(Package name: TO-92 Mod)



1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	2SD667	2SD667A	Unit
Collector to base voltage	V_{CBO}	120	120	V
Collector to emitter voltage	V_{CEO}	80	100	V
Emitter to base voltage	V_{EBO}	5	5	V
Collector current	I_C	1	1	A
Collector peak current	$i_{C(peak)}$	2	2	A
Collector power dissipation	P_C	0.9	0.9	W
Junction temperature	Tj	150	150	℃
Storage temperature	Tstg	–55 to +150	–50 to +150	℃

Electrical Characteristics

(Ta = 25°C)

		2SD667			2SD667A				
Item	**Symbol**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Unit**	**Test conditions**
Collector to base breakdown voltage	$V_{(BR)CBO}$	120	—	—	120	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	80	—	—	100	—	—	V	I_C = 1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	5	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	10	—	—	10	µA	V_{CB} = 100 V, I_E = 0
DC current transfer ratio	h_{FE1}*[1]	60	—	320	60	—	200		V_{CE} = 5 V, I_C = 150 mA*[2]
	h_{FE2}	30	—	—	30	—	—		V_{CE} = 5 V, I_C = 500 mA*[2]
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1	—	—	1	V	I_C = 500 mA, I_B = 50 mA*[2]
Base to emitter voltage	V_{BE}	—	—	1.5	—	—	1.5	V	V_{CE} = 5 V, I_C = 150 mA*[2]
Gain bandwidth product	f_T	—	140	—	—	140	—	MHz	V_{CE} = 5 V, I_C = 150 mA*[2]
Collector output capacitance	Cob	—	12	—	—	12	—	pF	V_{CB} = 10 V, I_E = 0, f = 1 MHz

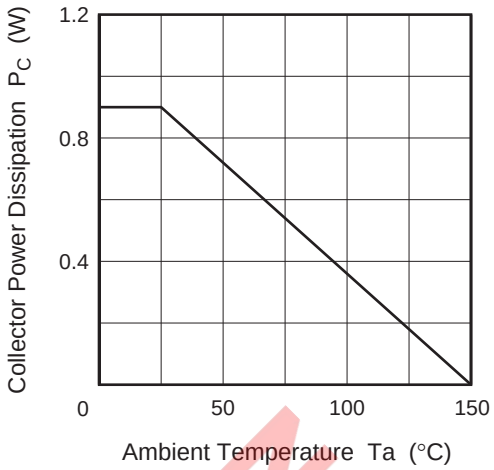
Notes: 1. The 2SD667 and 2SD667A are grouped by h_{FE1} as follows.

2. Pulse test

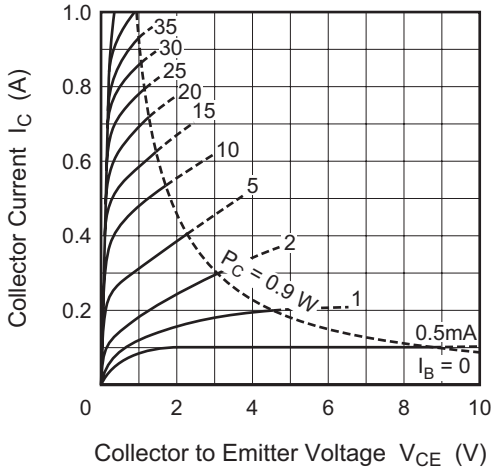
	B	C	D
2SD667	60 to 120	100 to 200	160 to 320
2SD667A	60 to 120	100 to 200	

Main Characteristics

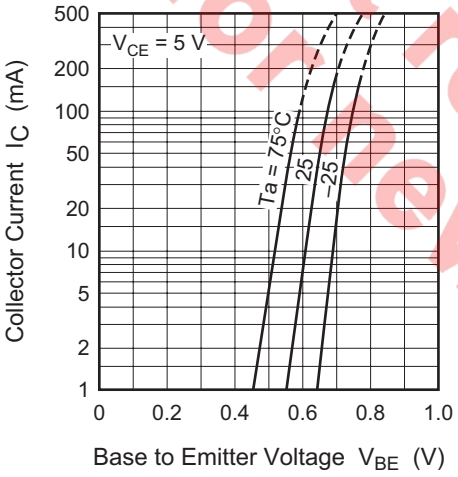
Maximum Collector Dissipation Curve



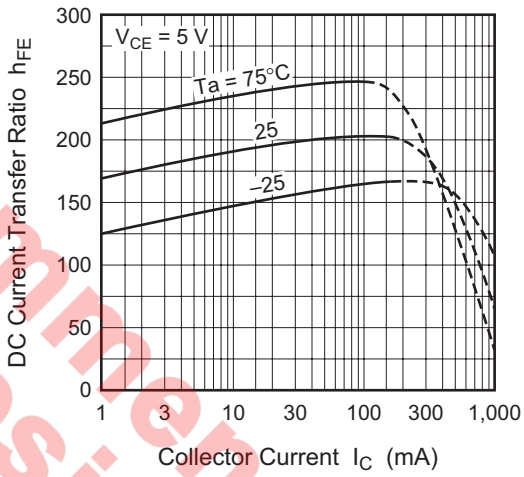
Typical Output Characteristics



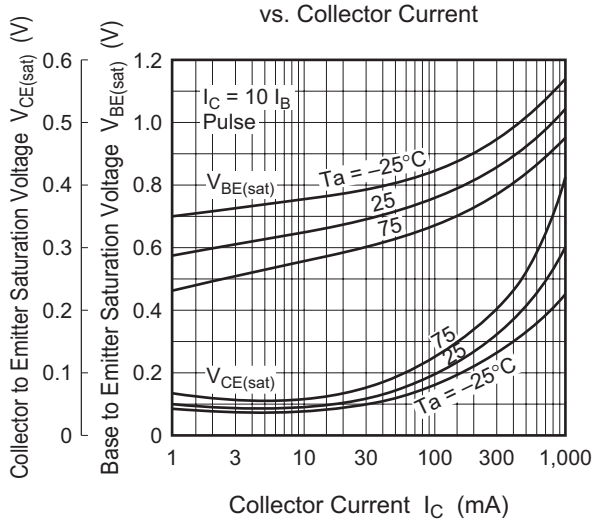
Typical Transfer Characteristics



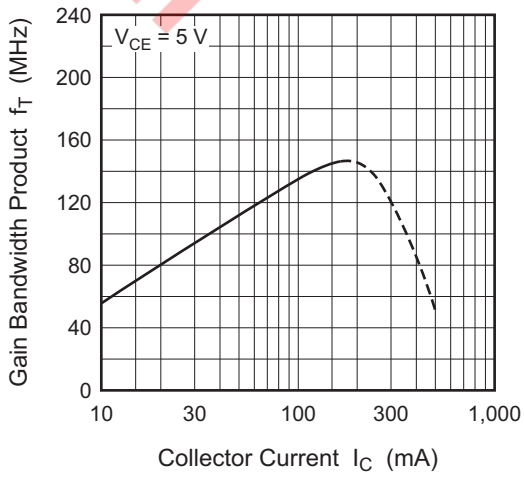
DC Current Transfer Ratio vs. Collector Current



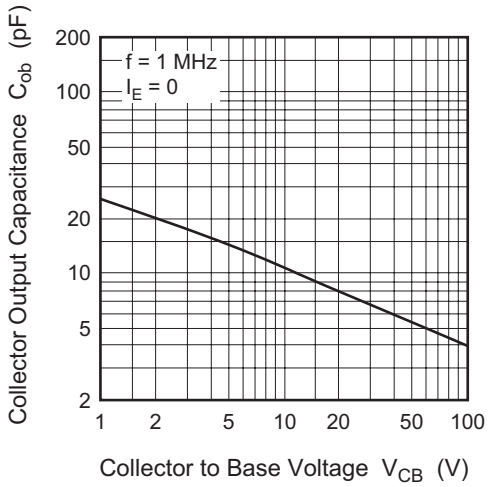
Saturation Voltage vs. Collector Current



Gain Bandwidth Product vs. Collector Current



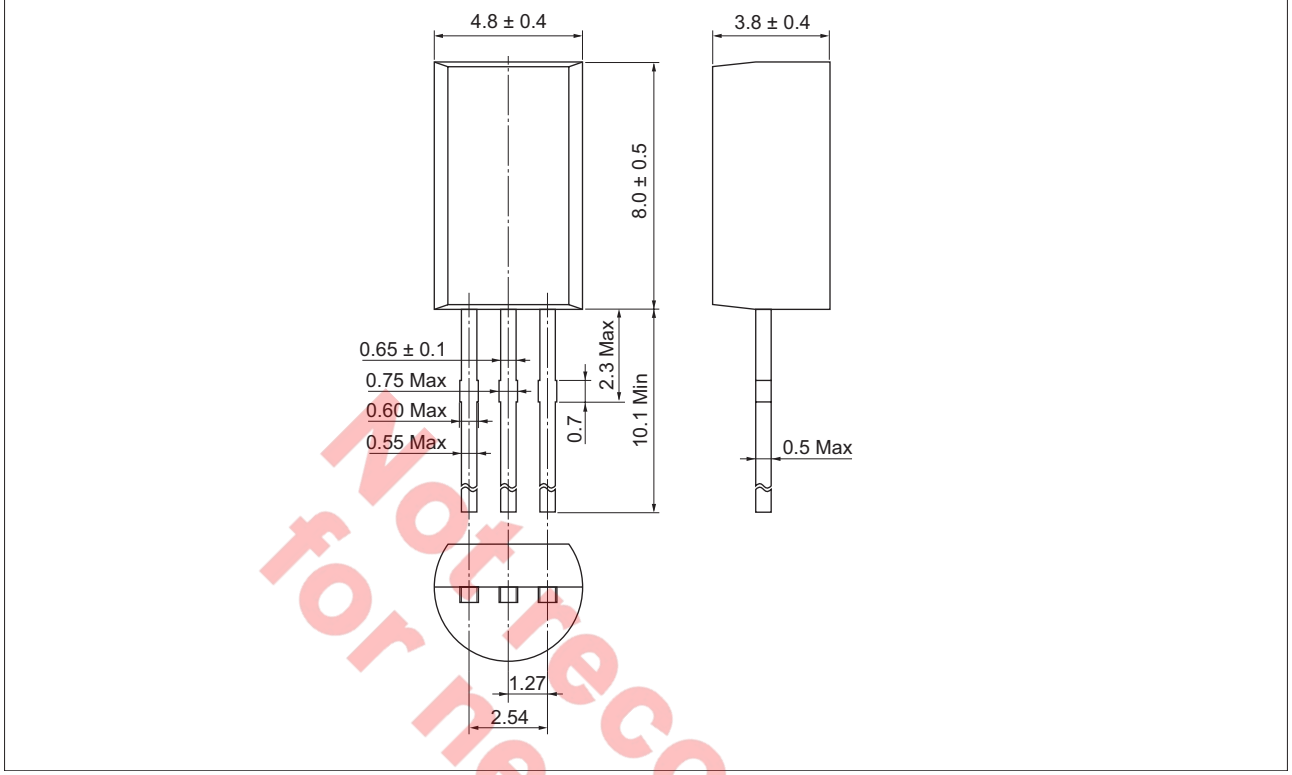
Collector Output Capacitance vs.
Collector to Base Voltage



Package Dimensions

JEITA Package Code	RENESAS Code	Package Name	MASS[Typ.]
SC-51	PRSS0003DC-A	TO-92 Mod / TO-92 ModV	0.35g

Unit: mm



Ordering Information

Part Name	Quantity	Shipping Container
2SD667BTZ-E 2SD667CTZ-E 2SD667DTZ-E 2SD667ABTZ-E 2SD667ACTZ-E	2500	Hold Box, Radial Taping

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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http://www.renesas.com

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Colophon .3.0