

# 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	$T_j$	150	150	°C
Storage temperature	$T_{stg}$	-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	$V_{(BR)CBO}$	120	—	—	120	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	80	—	—	100	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	5	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	10	—	—	10	$\mu A$	$V_{CB} = 100 \text{ V}, I_E = 0$
DC current transfer ratio	$h_{FE1}^{*1}$	60	—	320	60	—	200		$V_{CE} = 5 \text{ V}, I_C = 150 \text{ mA}^{*2}$
	$h_{FE2}$	30	—	—	30	—	—		$V_{CE} = 5 \text{ V}, I_C = 500 \text{ mA}^{*2}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1	—	—	1	V	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}^{*2}$
Base to emitter voltage	$V_{BE}$	—	—	1.5	—	—	1.5	V	$V_{CE} = 5 \text{ V}, I_C = 150 \text{ mA}^{*2}$
Gain bandwidth product	$f_T$	—	140	—	—	140	—	MHz	$V_{CE} = 5 \text{ V}, I_C = 150 \text{ mA}^{*2}$
Collector output capacitance	$C_{ob}$	—	12	—	—	12	—	pF	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$

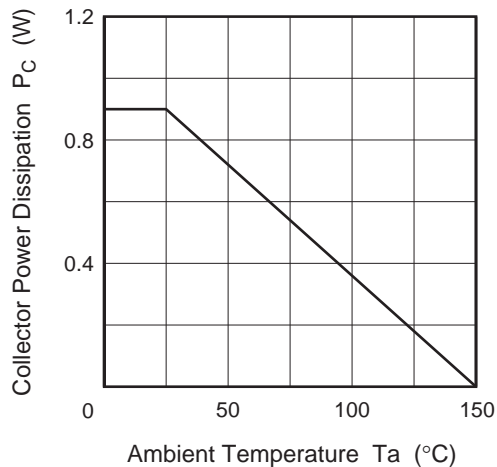
Notes: 1. The 2SD667 and 2SD667A are grouped by  $h_{FE1}$  as follows.

2. Pulse test

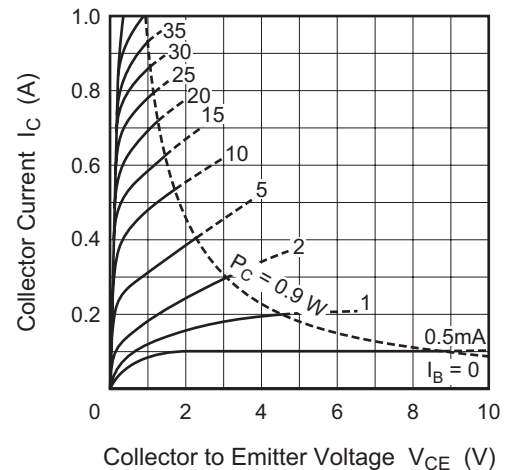
	B	C	D
2SD667	60 to 120	100 to 200	160 to 320
2SD667A	60 to 120	100 to 200	

## Main Characteristics

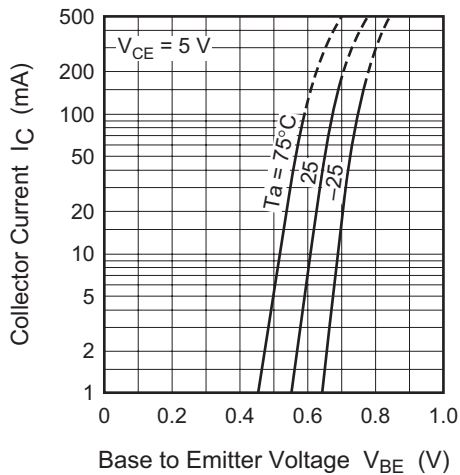
Maximum Collector Dissipation Curve



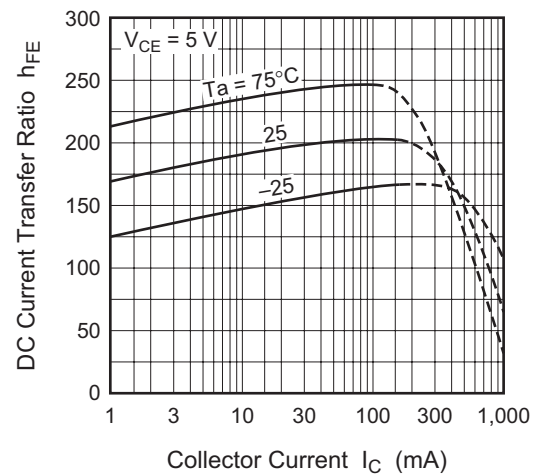
Typical Output Characteristics



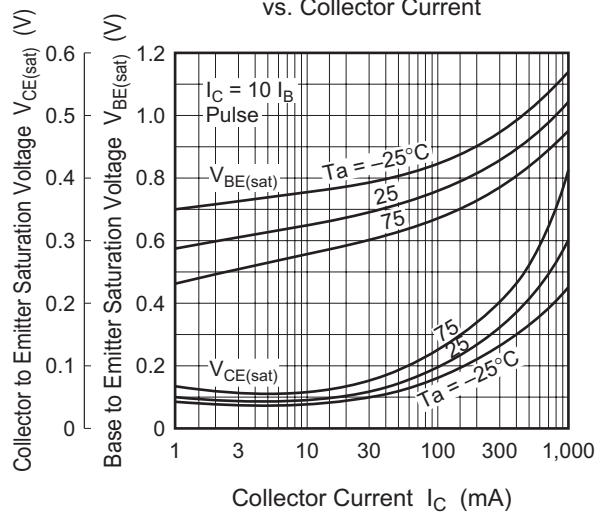
Typical Transfer Characteristics



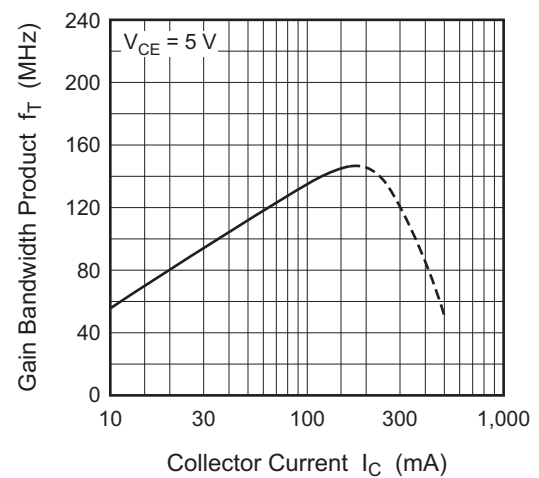
DC Current Transfer Ratio vs. Collector Current

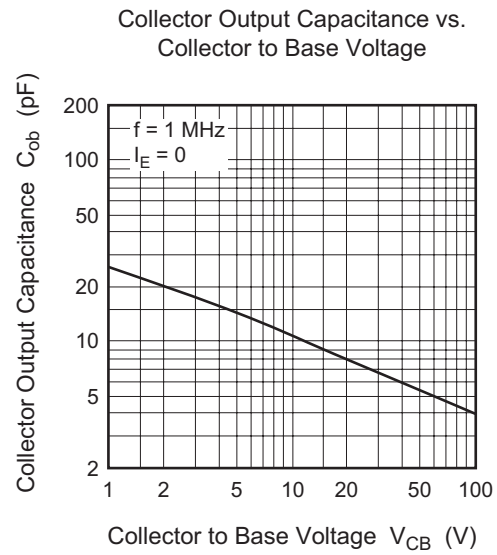


Saturation Voltage vs. Collector Current

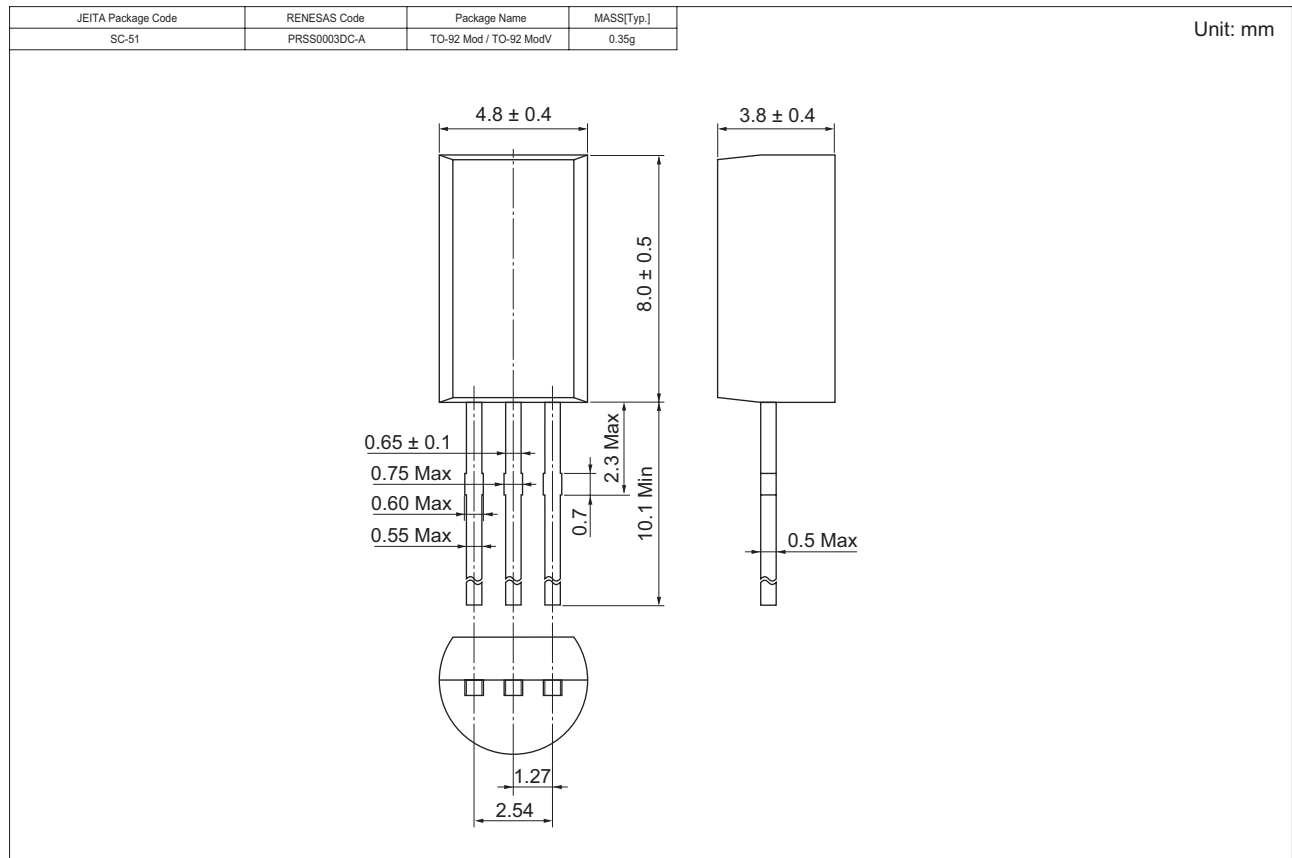


Gain Bandwidth Product vs. Collector Current





## Package Dimensions



## Ordering Information

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

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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