

2SB647, 2SB647A

Silicon PNP Epitaxial

REJ03G0648-0200
 (Previous ADE-208-1025)
 Rev.2.00
 Aug.10.2005

Application

- Low frequency power amplifier
- Complementary pair with 2SD667/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	2SB647	2SB647A	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	-55 to +150	°C

Electrical Characteristics

(Ta = 25°C)

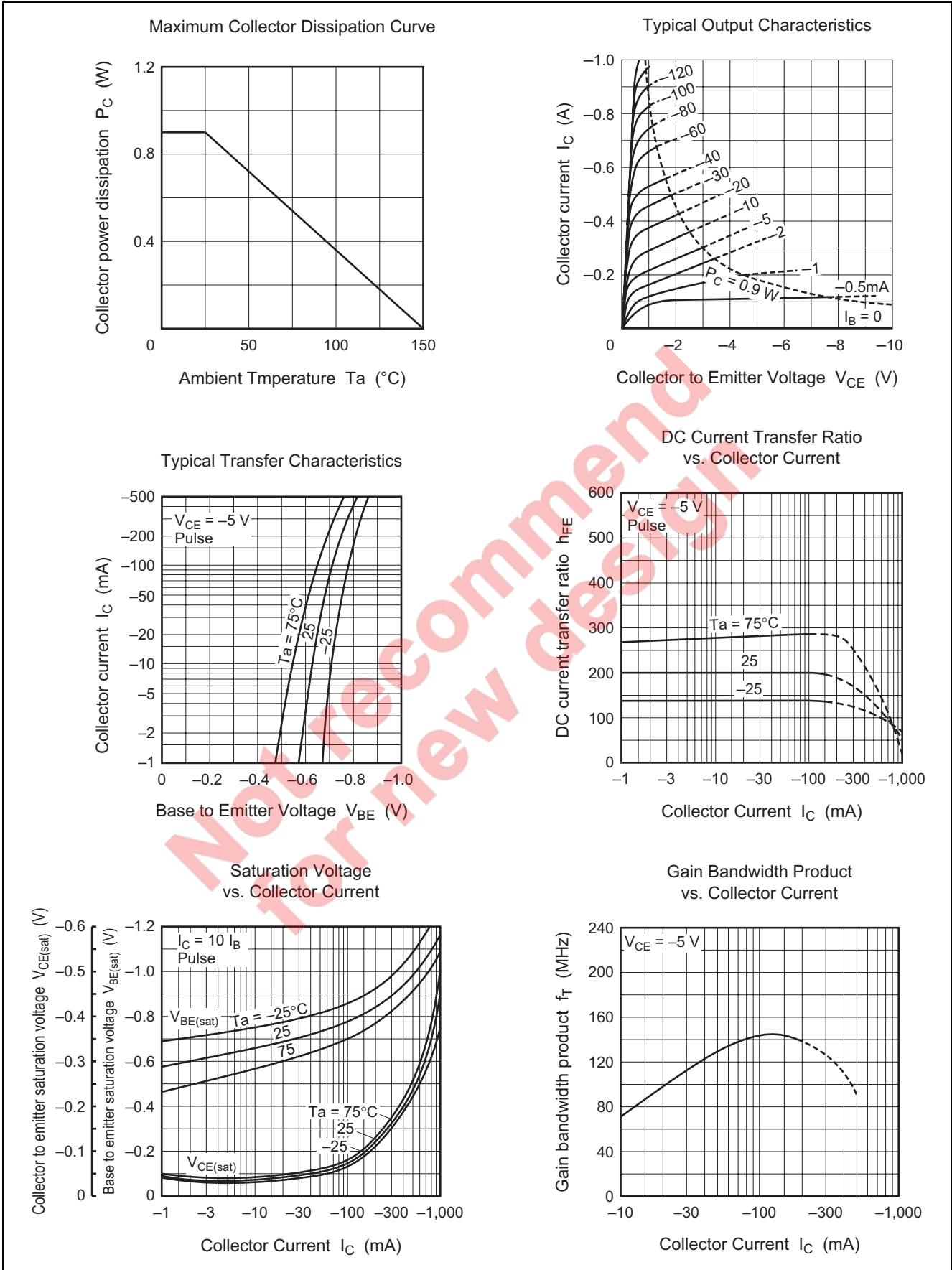
Item	Symbol	2SB647			2SB647A			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	-120	—	—	-120	—	—	V	$I_C = -10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-80	—	—	-100	—	—	V	$I_C = -1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	-5	—	—	V	$I_E = -10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-10	—	—	-10	μA	$V_{CB} = -100 \text{ V}, I_E = 0$
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	$V_{CE} = -5 \text{ V}, I_C = -150 \text{ mA}$
Collector output capacitance	C_{ob}	—	20	—	—	20	—	pF	$V_{CB} = -10 \text{ V}, I_E = 0$ $f = 1 \text{ MHz}$

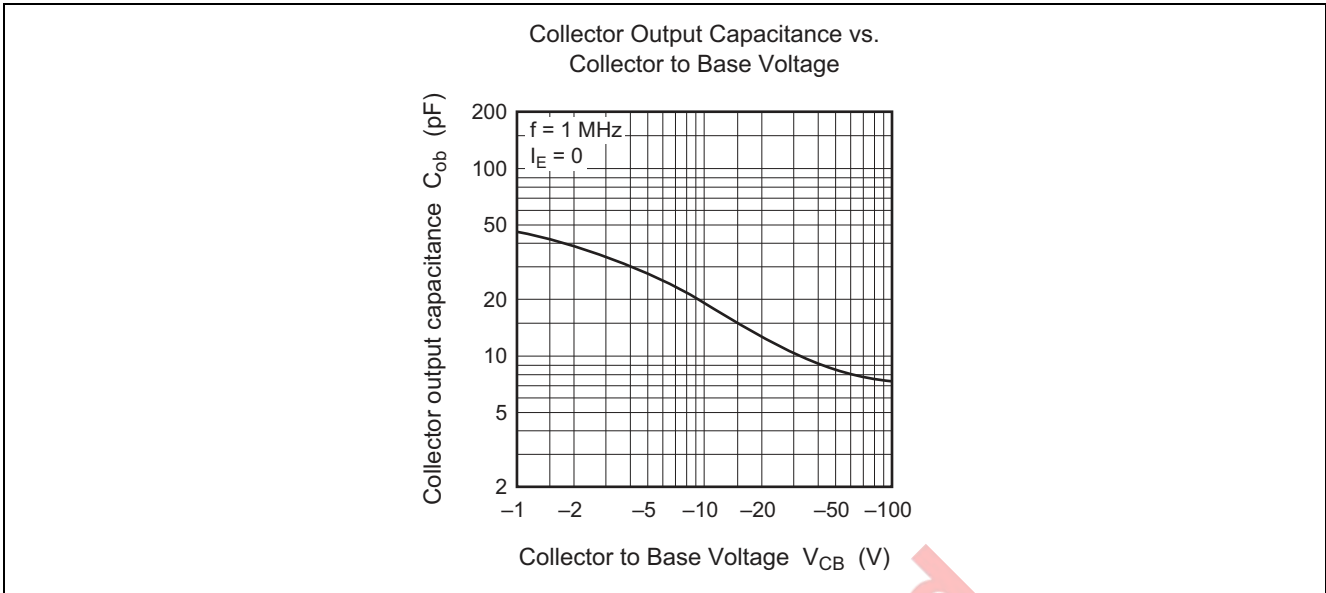
Notes: 1. The 2SB647 and 2SB647A are grouped by h_{FE1} as follows.

2. Pulse test

	B	C	D
2SB647	—	100 to 200	160 to 320
2SB647A	60 to 120	100 to 200	—

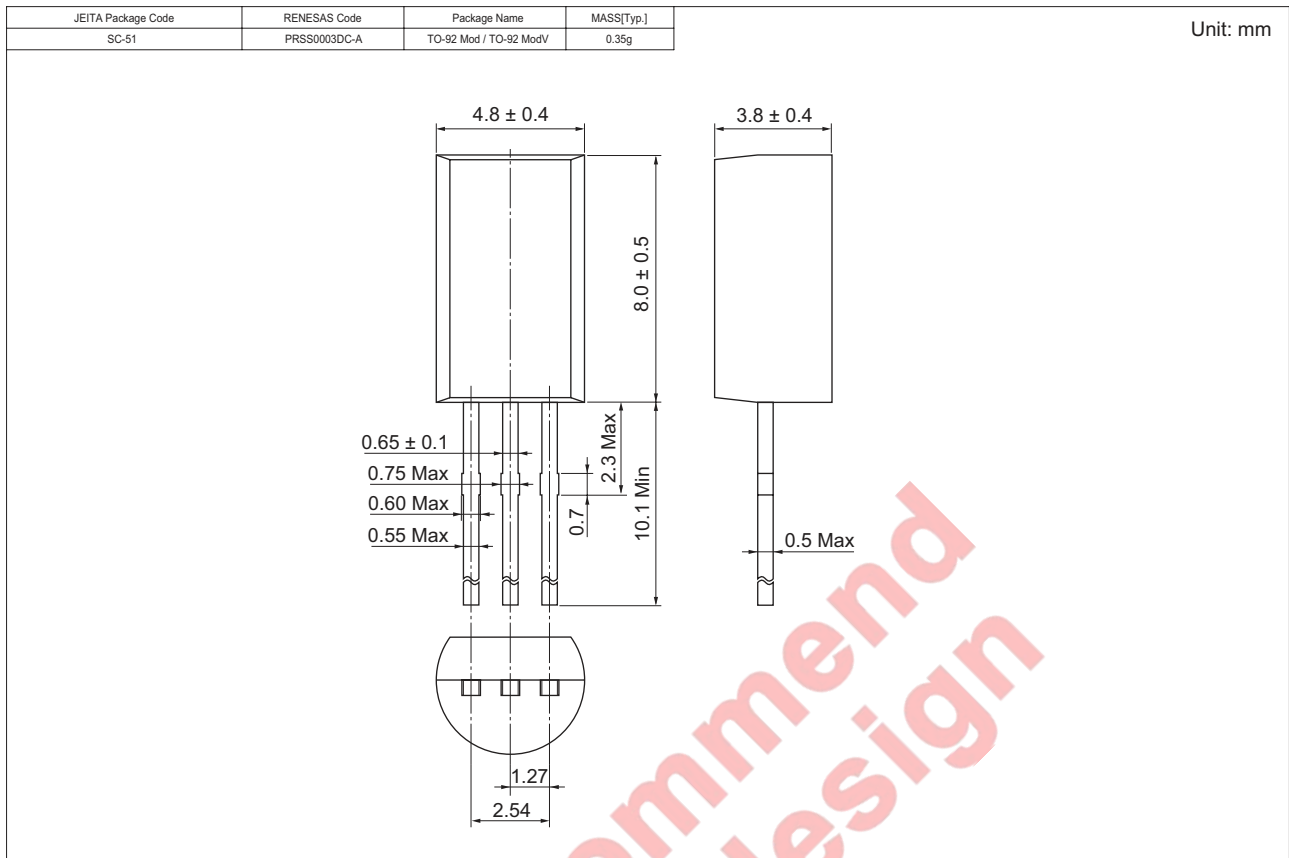
Main Characteristics





Not recommended for new design

Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SB647CTZ-E 2SB647DTZ-E 2SB647ABTZ-E 2SB647ACTZ-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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