

2SA1084, 2SA1085

Silicon PNP Epitaxial

REJ03G0635-0300
(Previous ADE-208-1007A)

Rev.3.00

Aug.10.2005

Application

Low frequency low noise amplifier

Outline

RENESAS Package code: PRSS0003DA-A
(Package name: TO-92 (1))

1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	2SA1084	2SA1085	Unit
Collector to base voltage	V_{CBO}	-90	-120	V
Collector to emitter voltage	V_{CEO}	-90	-120	V
Emitter to base voltage	V_{EBO}	-5	-5	V
Collector current	I_C	-100	-100	mA
Emitter current	I_E	100	100	mA
Collector power dissipation	P_C	400	400	mW
Junction temperature	T_j	150	150	°C
Storage temperature	T_{stg}	-55 to +150	-55 to +150	°C

Electrical Characteristics

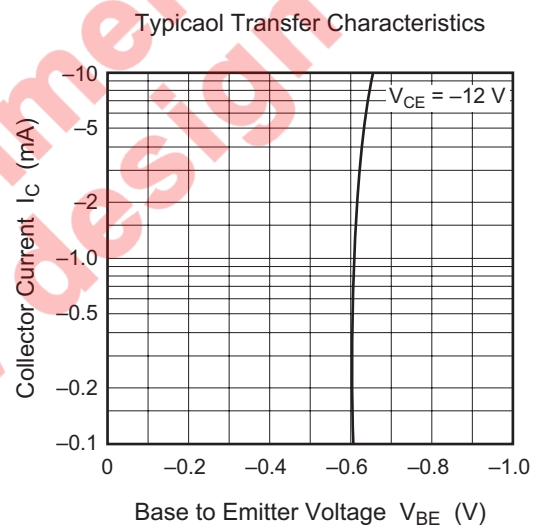
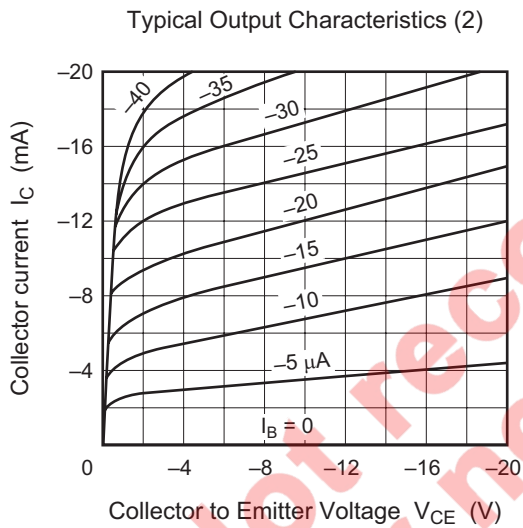
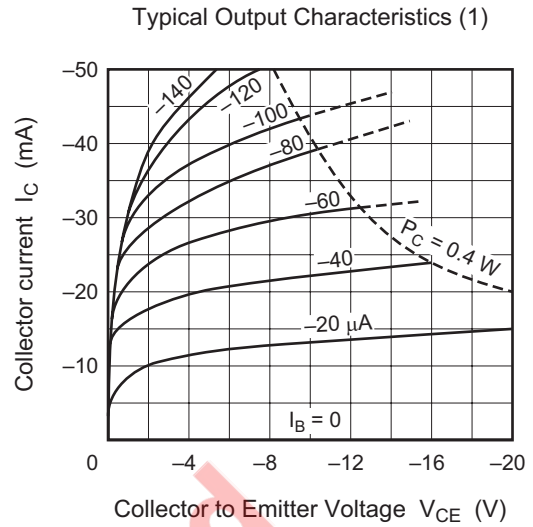
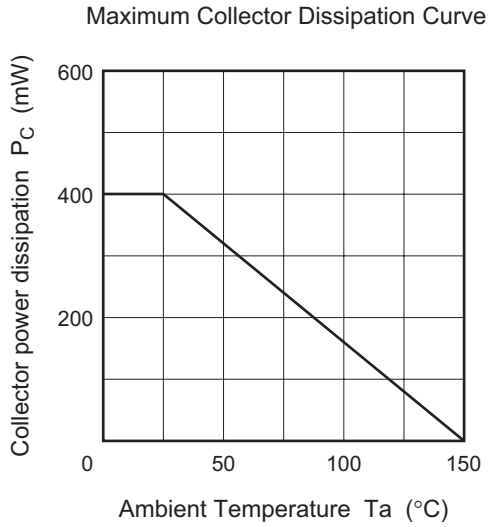
(Ta = 25°C)

Item	Symbol	2SA1084			2SA1085			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	-90	—	—	-120	—	—	V	$I_C = -10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-90	—	—	-120	—	—	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}	—	—	-0.1	—	—	-0.1	μA	$V_{CB} = -50 \text{ V}, I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	-0.1	—	—	-0.1	μA	$V_{EB} = -2 \text{ V}, I_C = 0$
DC current transfer ratio	h_{FE}^{*1}	250	—	800	250	—	800		$V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-0.2	—	—	-0.2	V	$I_C = -10 \text{ mA}, I_B = -1 \text{ mA}$
Base to emitter voltage	V_{BE}	—	-0.6	—	—	-0.6	—	V	$V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$
Gain bandwidth product	f_T	—	90	—	—	90	—	MHz	$V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$
Collector output capacitance	C_{ob}	—	3.5	—	—	3.5	—	pF	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$
Noise voltage referred to input	e_n	—	0.5	—	—	0.5	—	nV/ $\sqrt{\text{Hz}}$	$V_{CE} = -6 \text{ V}, I_C = -10 \text{ mA}, f = 1 \text{ kHz}, R_g = 0, \Delta f = 1 \text{ Hz}$

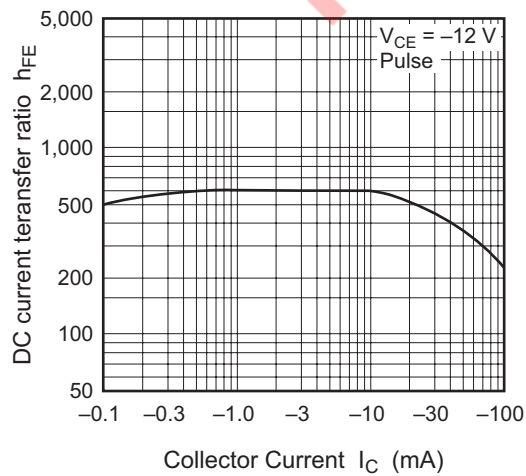
Note: 1. The 2SA1084 and 2SA1085 are grouped by h_{FE} as follows.

D	E
250 to 500	400 to 800

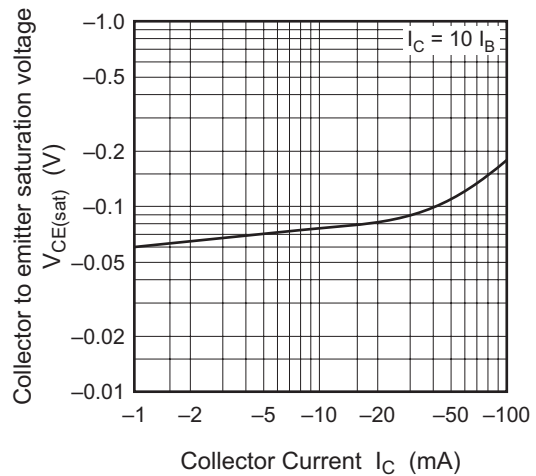
Main Characteristics

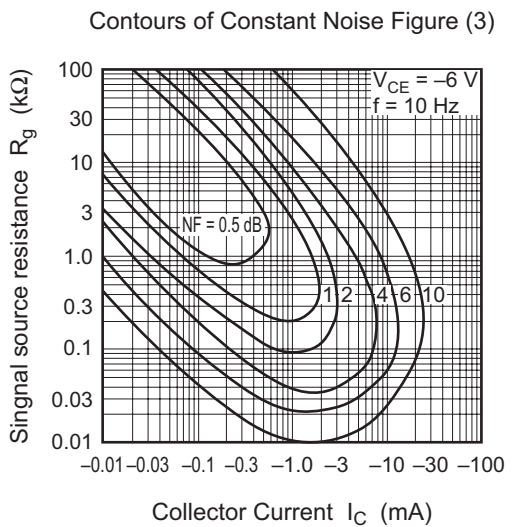
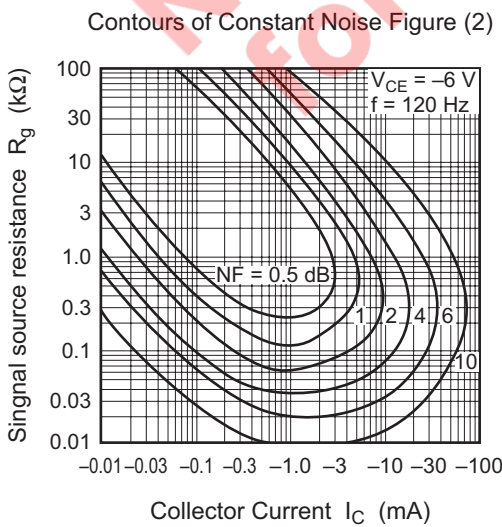
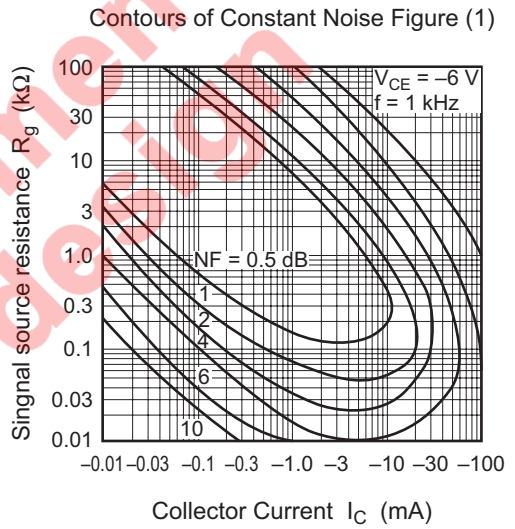
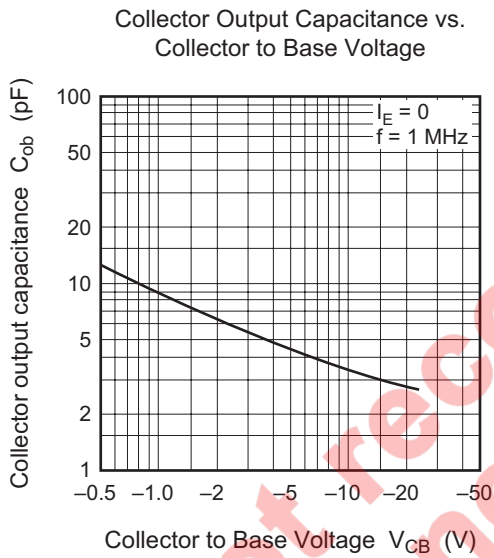
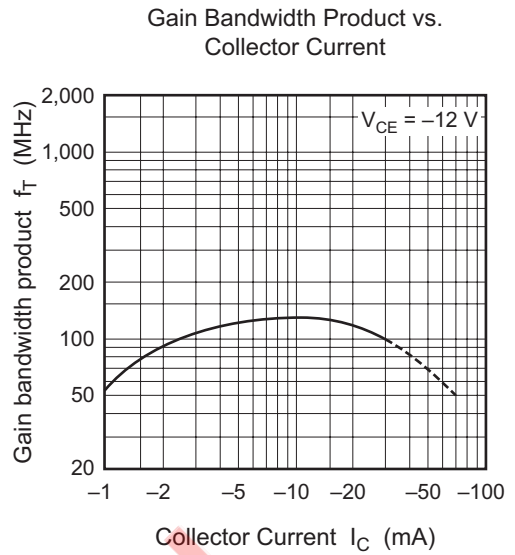
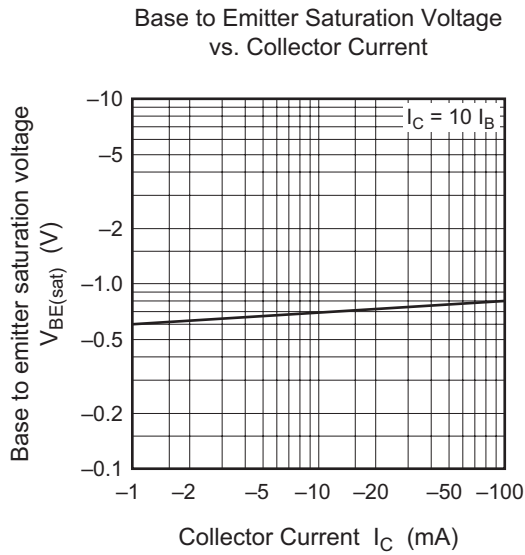


DC Current Transfer Ratio vs. Collector Current

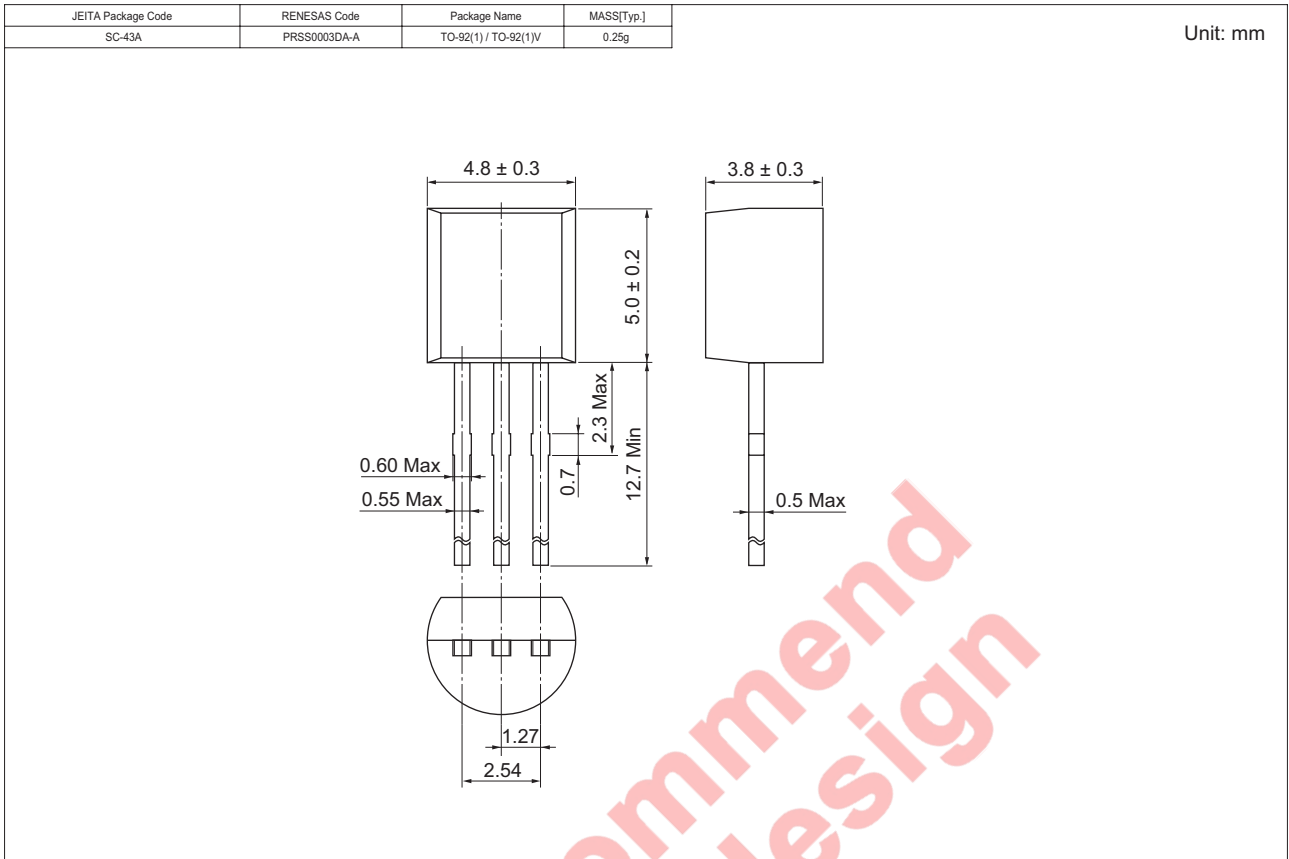


Collector to Emitter Saturation Voltage vs. Collector Current





Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SA1084ETZ-E 2SA1085DTZ-E 2SA1085ETZ-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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