

## 2SA844

Silicon PNP Epitaxial

REJ03G0630-0200  
(Previous ADE-208-320)  
Rev.2.00  
Aug.10.2005

### Application

Low frequency 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	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-55	V
Collector to emitter voltage	$V_{CEO}$	-55	V
Emitter to base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-100	mA
Emitter current	$I_E$	100	mA
Collector power dissipation	$P_C$	300	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

## Electrical Characteristics

(Ta = 25°C)

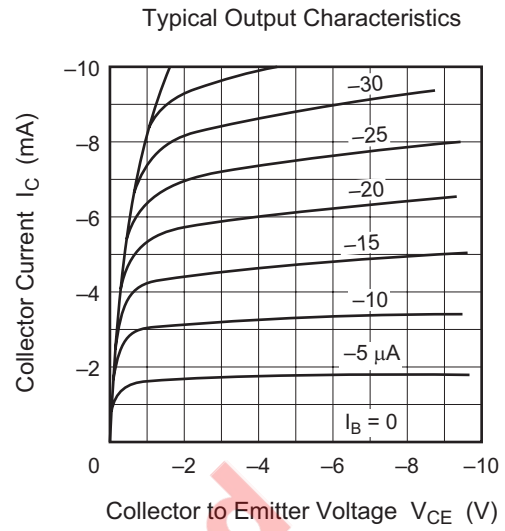
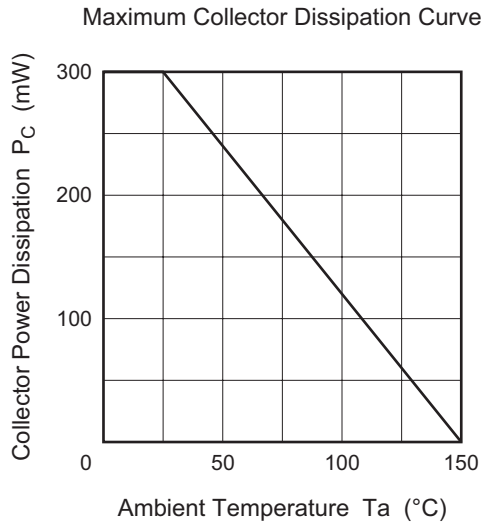
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-55	—	—	V	$I_C = -10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-55	—	—	V	$I_C = -1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	V	$I_E = -10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	-100	nA	$V_{CB} = -18 \text{ V}, I_E = 0$
Emitter cutoff current	$I_{EBO}$	—	—	-50	nA	$V_{EB} = -2 \text{ V}, I_C = 0$
DC current transfer ratio	$h_{FE}^{*1}$	160	—	500		$V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	-0.1	-0.5	V	$I_C = -10 \text{ mA}, I_B = -1 \text{ mA}$
Base to emitter voltage	$V_{BE}$	—	-0.66	-0.75	V	$V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$
Gain bandwidth product	$f_T$	—	200	—	MHz	$V_{CE} = -12 \text{ V}, I_E = -2 \text{ mA}$
Collector output capacitance	$C_{ob}$	—	2.0	—	pF	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$

Note: 1. The 2SA844 is grouped by  $h_{FE}$  as follows.

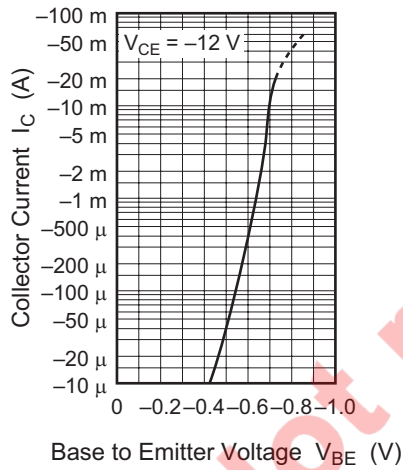
C	D
160 to 320	250 to 500

Not recommend  
for new design

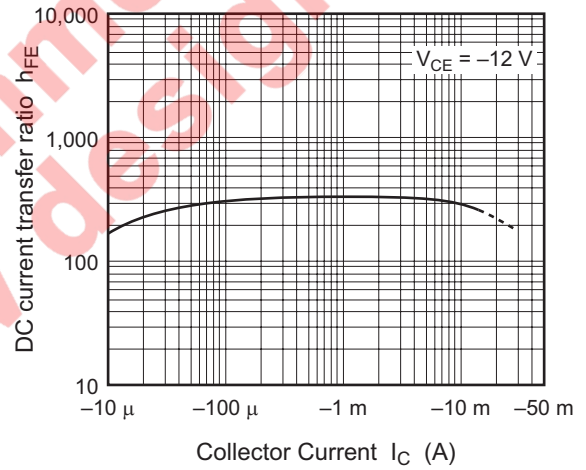
Main Characteristics



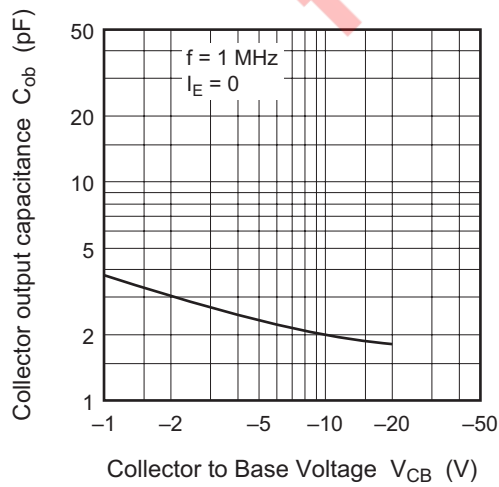
Typical Transfer Characteristics



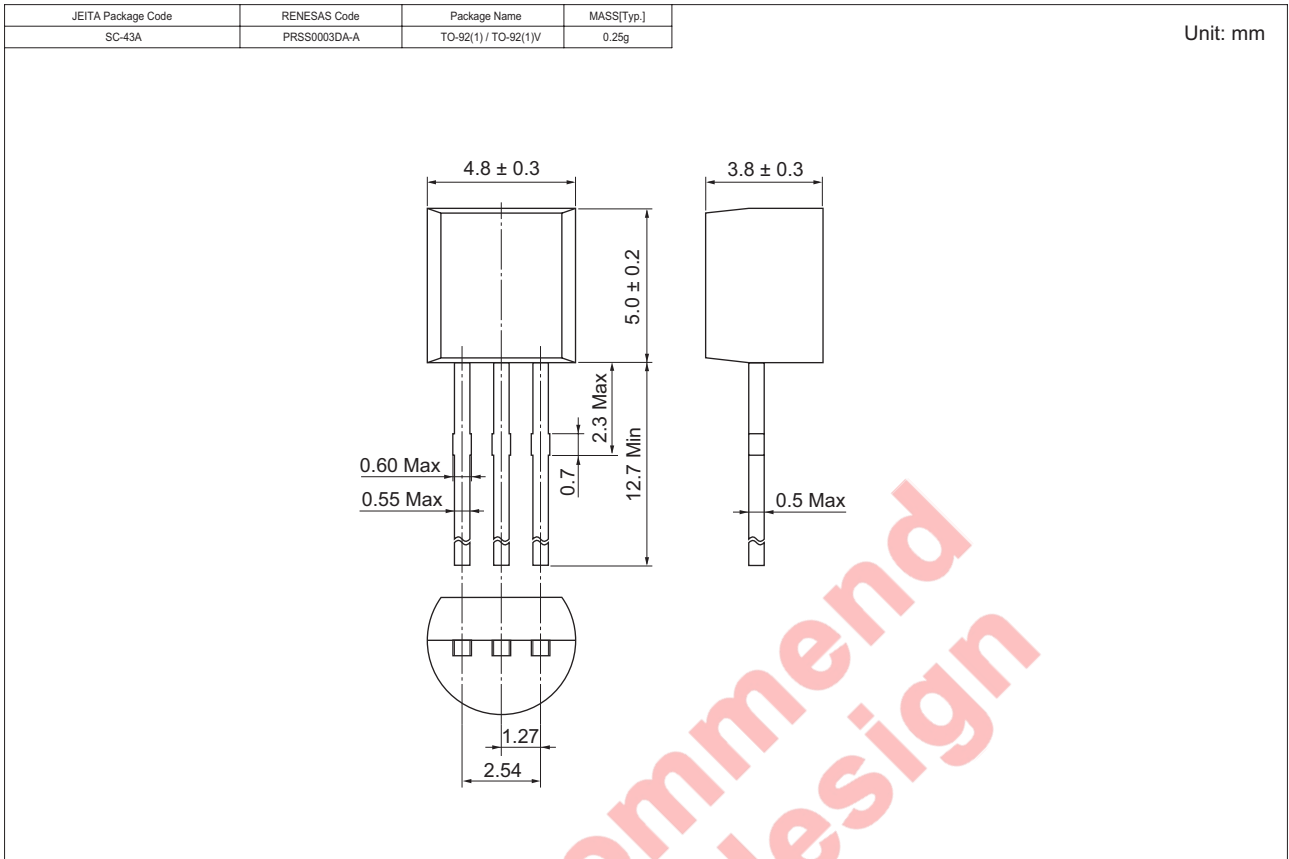
DC Current Transfer Ratio vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage



### Package Dimensions



### Ordering Information

Part Name	Quantity	Shipping Container
2SA844CTZ 2SA844DTZ	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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