

# 2SC2853

Silicon NPN Epitaxial

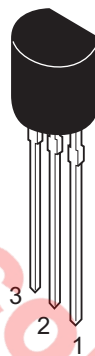
REJ03G0708-0300  
(Previous ADE-208-1078A)  
Rev.3.00  
Aug.10.2005

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

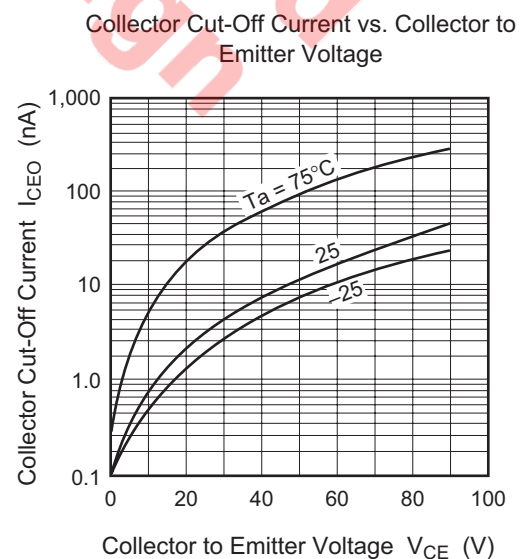
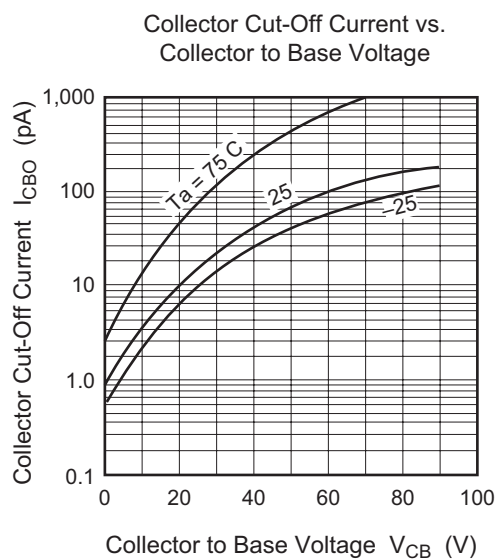
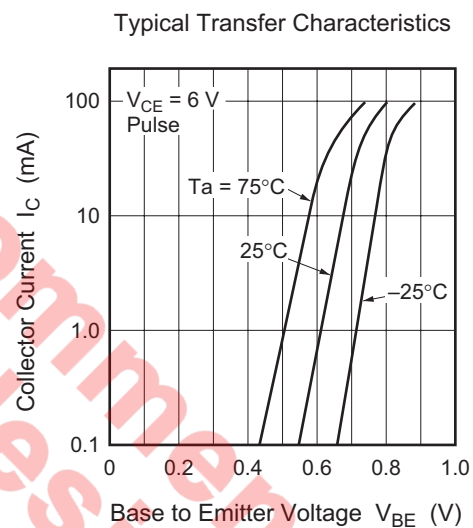
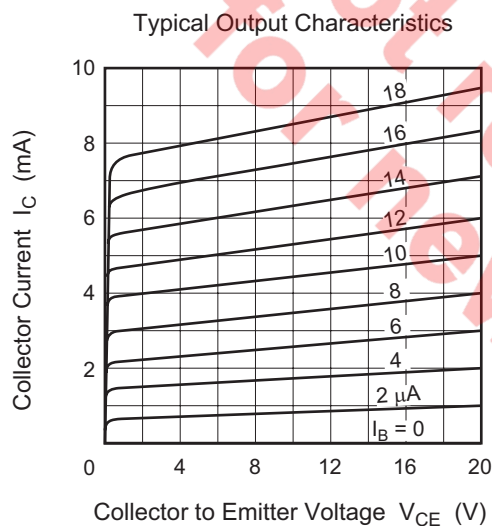
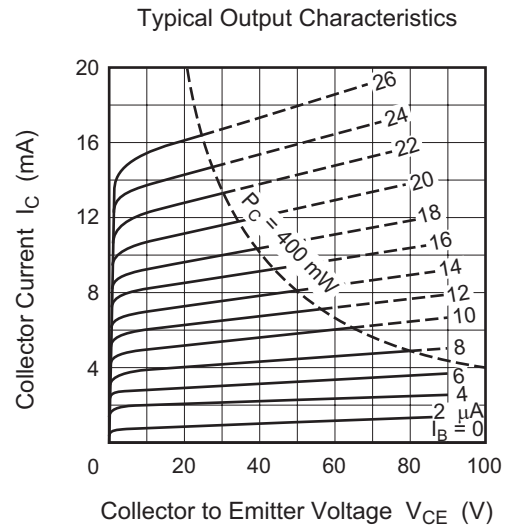
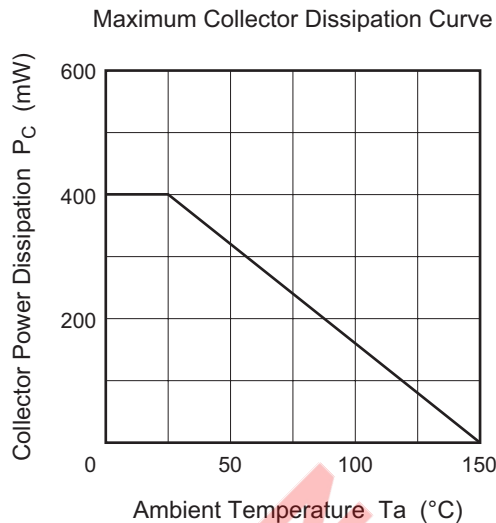
## Electrical Characteristics

(Ta = 25°C)

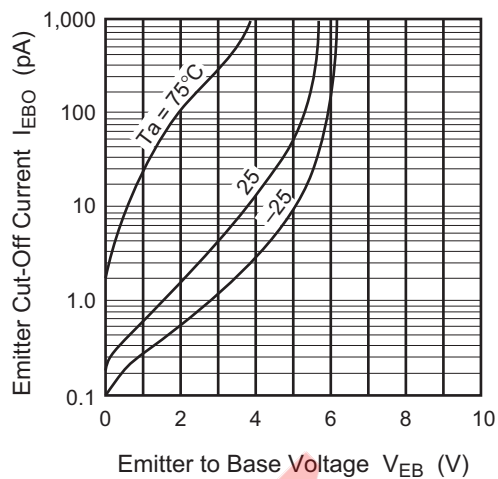
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	90	—	—	V	$I_C = 10\ \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	90	—	—	V	$I_C = 1\ mA, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 10\ \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	0.1	$\mu A$	$V_{CB} = 70\ V, I_E = 0$
Emitter cutoff current	$I_{EBO}$	—	—	0.1	$\mu A$	$V_{EB} = 2\ V, I_C = 0$
DC current transfer ratio	$h_{FE}$	400	—	800		$V_{CE} = 12\ V, I_C = 2\ mA$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.05	0.10	V	$I_C = 10\ mA, I_B = 1\ mA$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	0.7	1.0	V	
Gain bandwidth product	$f_T$	—	310	—	MHz	$V_{CE} = 6\ V, I_C = 10\ mA$
Collector output capacitance	$C_{ob}$	—	3	—	pF	$V_{CB} = 10\ V, I_E = 0,$ $f = 1\ MHz$

Not recommend  
for new design

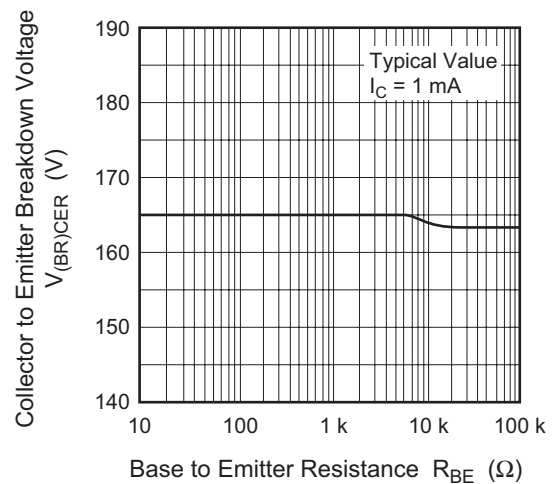
## Main Characteristics



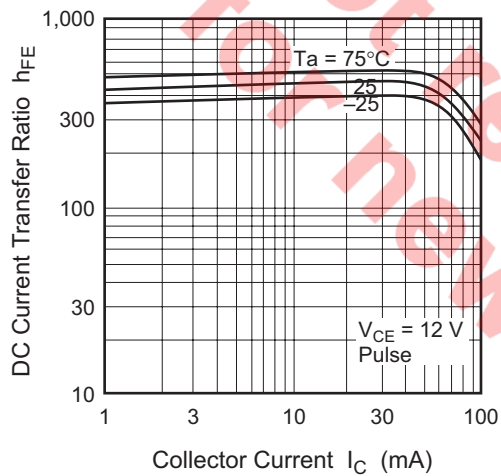
Emitter Cut-Off Current vs. Emitter to Base Voltage



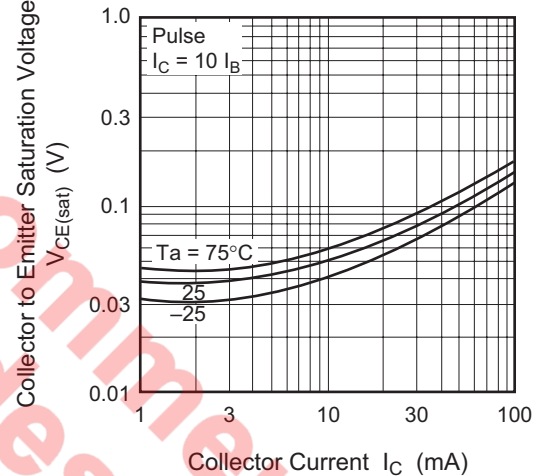
Collector to Emitter Breakdown Voltage vs. Base to Emitter Resistance



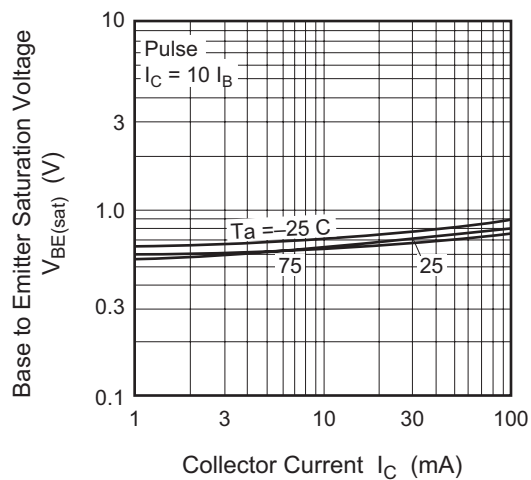
DC Current Transfer Ratio vs. Collector Current



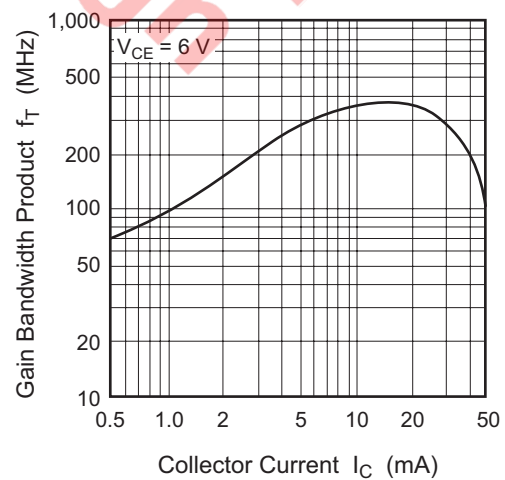
Collector to Emitter Saturation Voltage vs. Collector Current

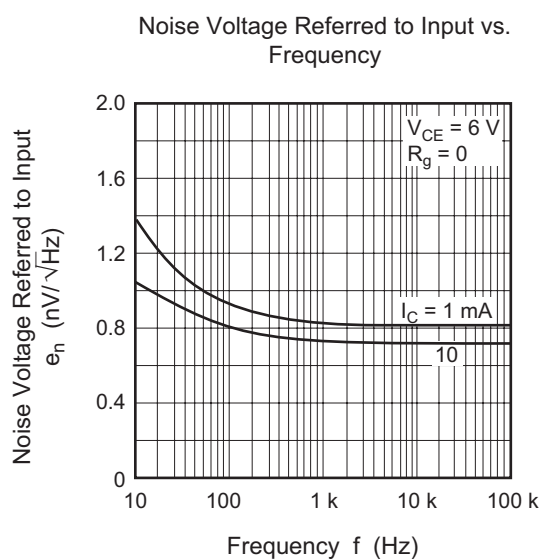
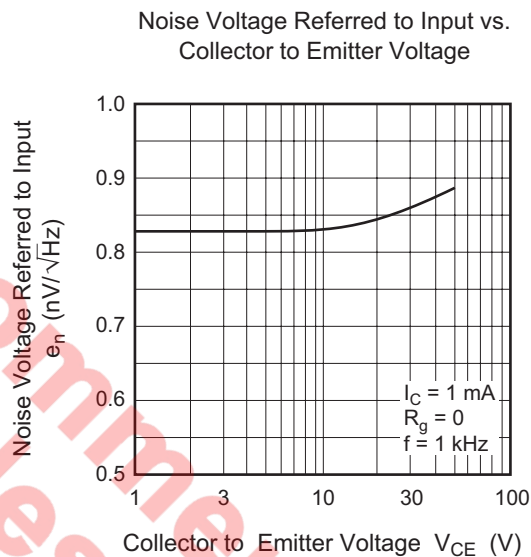
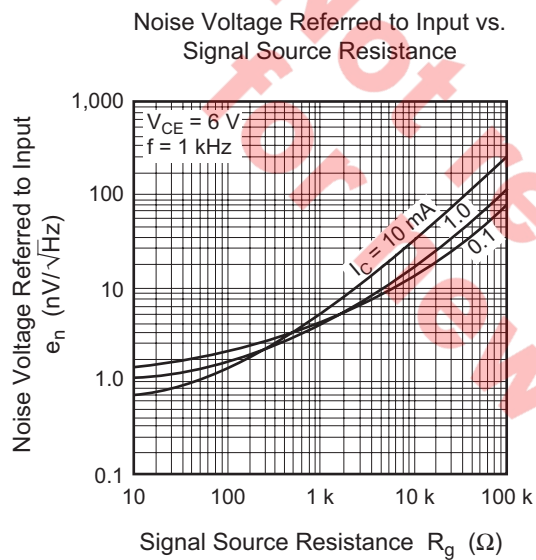
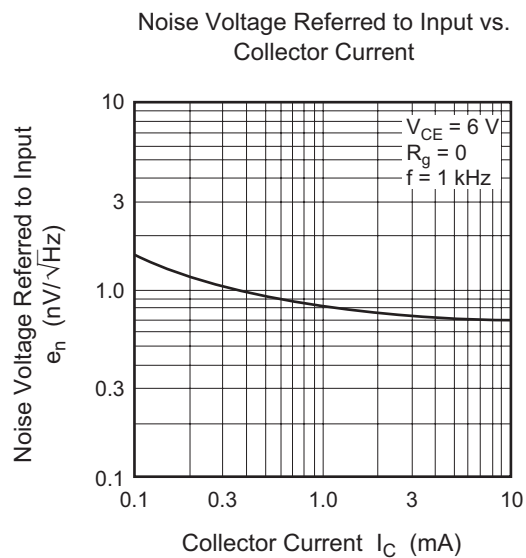
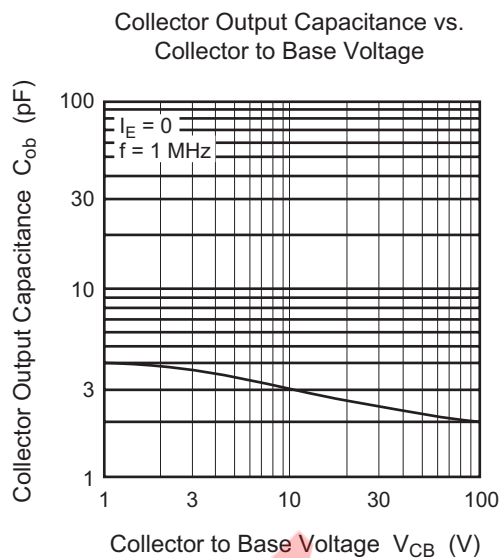


Base to Emitter Saturation Voltage vs. Collector Current

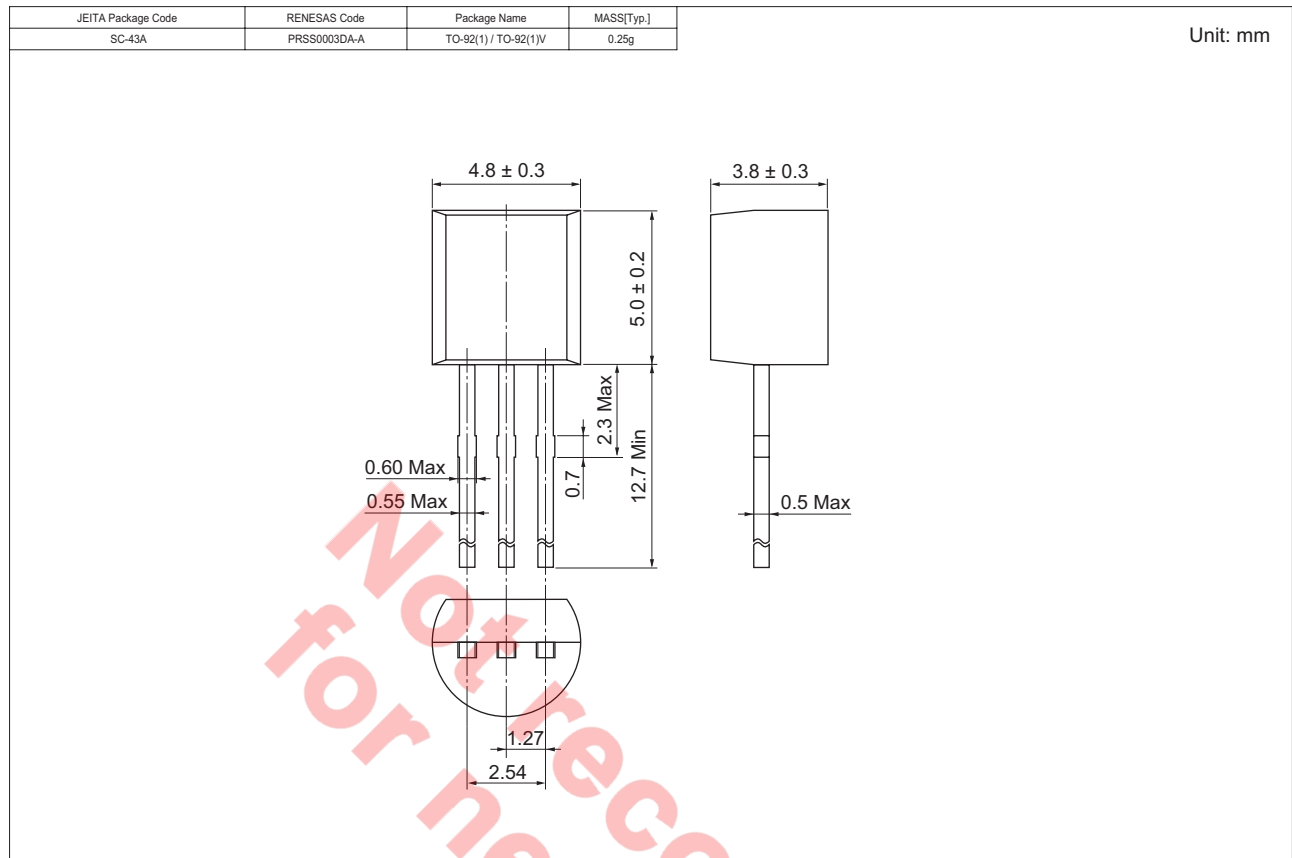


Gain Bandwidth Product vs. Collector Current





## Package Dimensions



## Ordering Information

Part Name	Quantity	Shipping Container
2SC2853ETZ-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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