

# 2SC1775A

Silicon NPN Epitaxial

REJ03G0690-0300  
(Previous ADE-208-1056)  
Rev.3.00  
Mar 03, 2006

## Application

- Low frequency low noise amplifier
- Complementary pair with 2SA872A

## 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	Rating	Unit
Collector to base voltage	$V_{CBO}$	120	V
Collector to emitter voltage	$V_{CEO}$	120	V
Emitter to base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	50	mA
Collector power dissipation	$P_C$	300	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-50 to +150	°C

## Electrical Characteristics

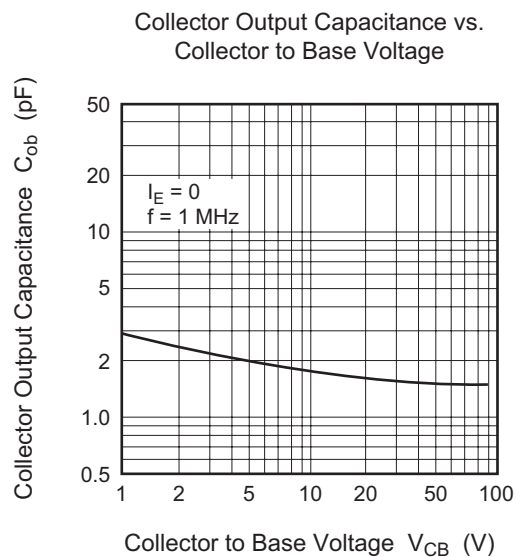
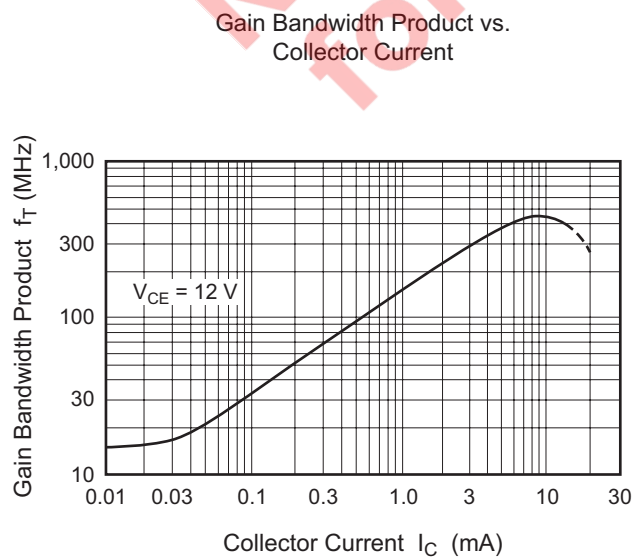
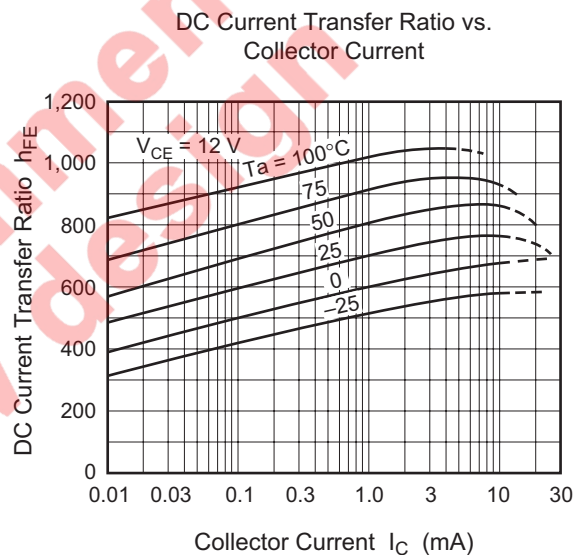
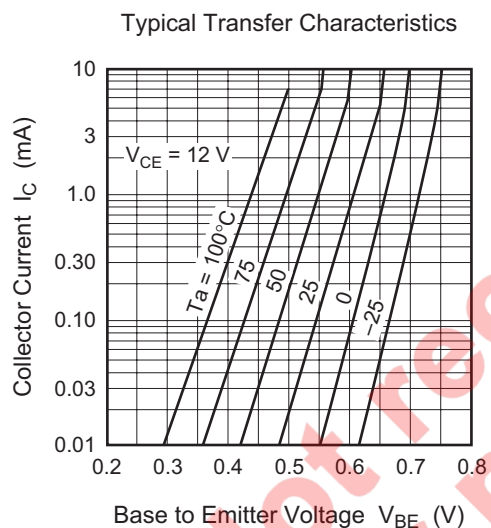
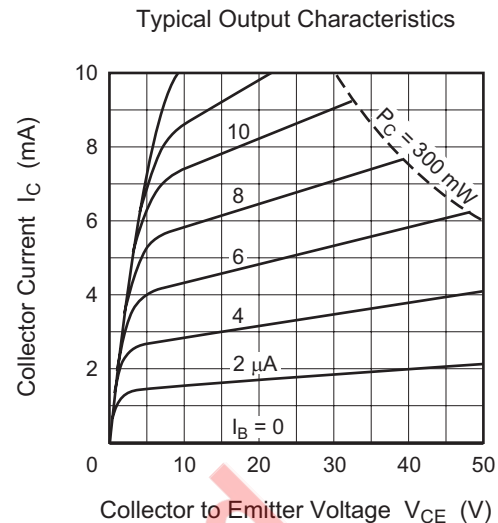
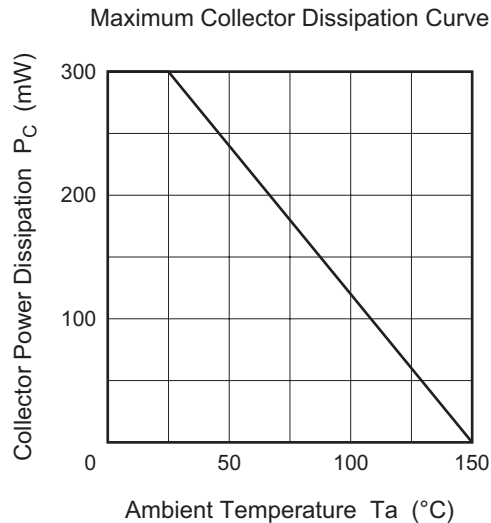
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	V	$I_C = 1 \text{ mA}$ , $R_{BE} = \infty$
Collector cutoff current	$I_{CBO}$	—	—	0.5	$\mu\text{A}$	$V_{CB} = 100 \text{ V}$ , $I_E = 0$
DC current transfer ratio	$h_{FE1}^{*1}$	400	—	1200		$V_{CE} = 12 \text{ V}$ , $I_C = 2 \text{ mA}$
	$h_{FE2}$	160	—	—		$V_{CE} = 12 \text{ V}$ , $I_C = 0.1 \text{ mA}$
Base to emitter voltage	$V_{BE}$	—	—	0.75	V	$V_{CE} = 12 \text{ V}$ , $I_C = 2 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.5	V	$I_C = 10 \text{ mA}$ , $I_B = 1 \text{ mA}$
Gain bandwidth product	$f_T$	—	200	—	MHz	$V_{CE} = 12 \text{ V}$ , $I_C = 2 \text{ mA}$
Collector output capacitance	$C_{ob}$	—	1.6	—	pF	$V_{CB} = 25 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$
Noise figure	NF	—	—	5.0	dB	$V_{CE} = 6 \text{ V}$ , $I_C = 50 \mu\text{A}$ , $f = 10 \text{ Hz}$
		—	—	1.5	dB	$R_g = 50 \text{ k}\Omega$ , $f = 1 \text{ kHz}$

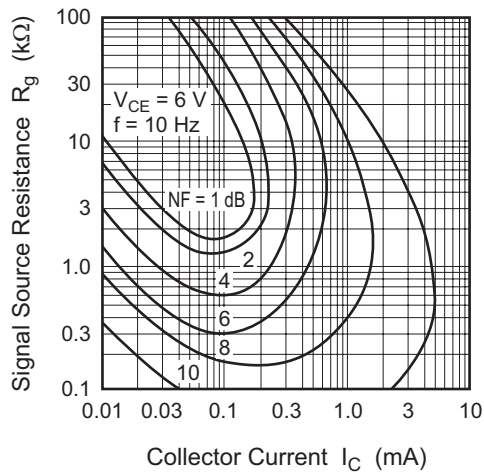
Note: 1. The 2SC1775A is grouped by  $h_{FE1}$  as follows.

E	F
400 to 800	600 to 1200

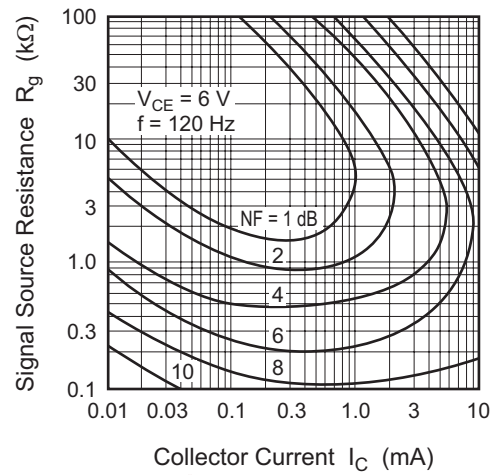
## Main Characteristics



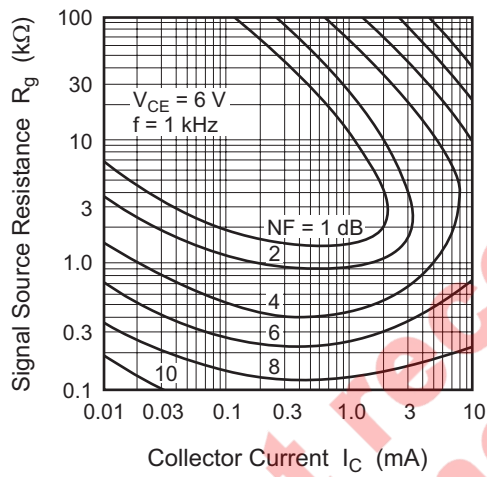
Contours of Constant Noise Figure



Contours of Constant Noise Figure



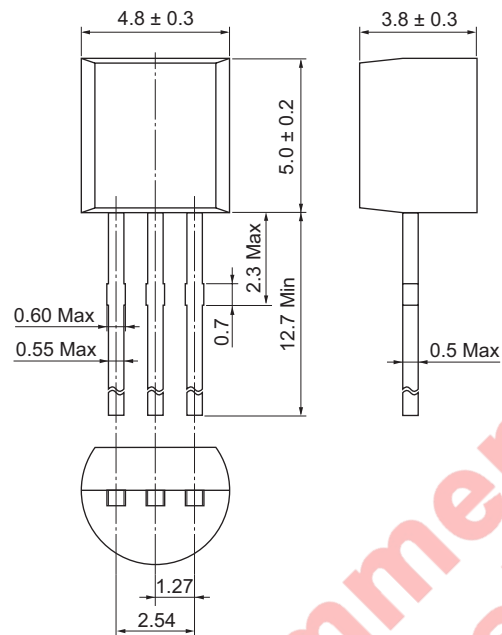
Contours of Constant Noise Figure



## Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
TO-92(1)	SC-43A	PRSS0003DA-A	TO-92(1) / TO-92(1)V	0.25g

Unit: mm



## Ordering Information

Part Name	Quantity	Shipping Container
2SC1775AETZ 2SC1775AFTZ	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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