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Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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for new design

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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)

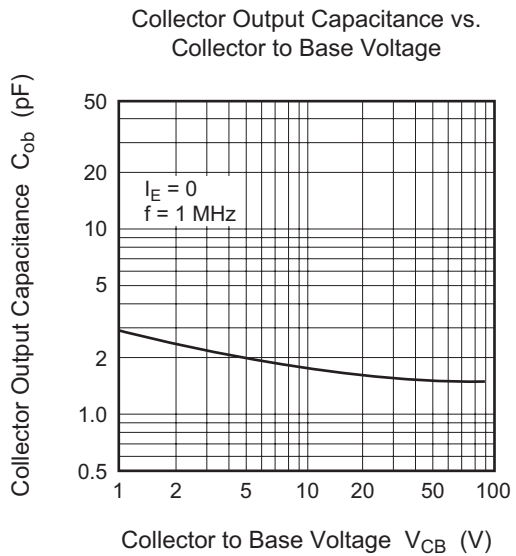
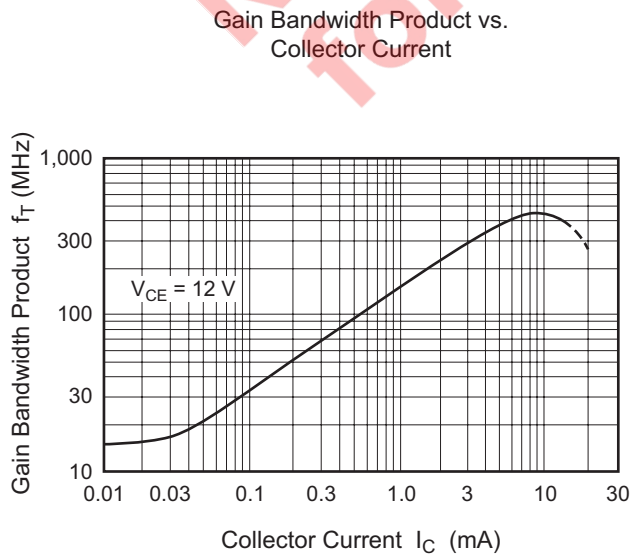
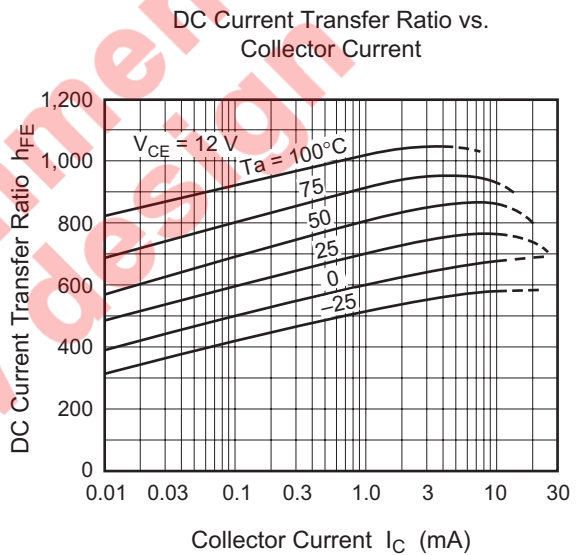
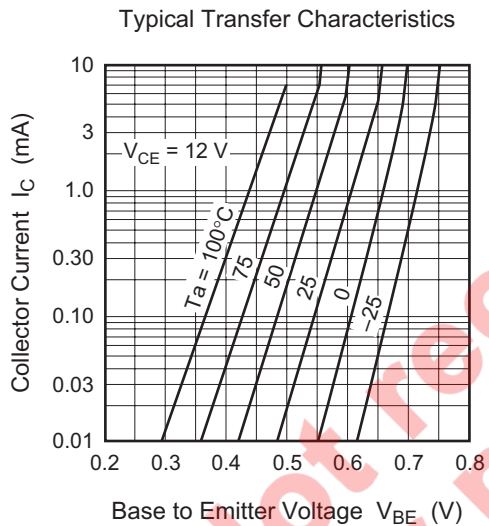
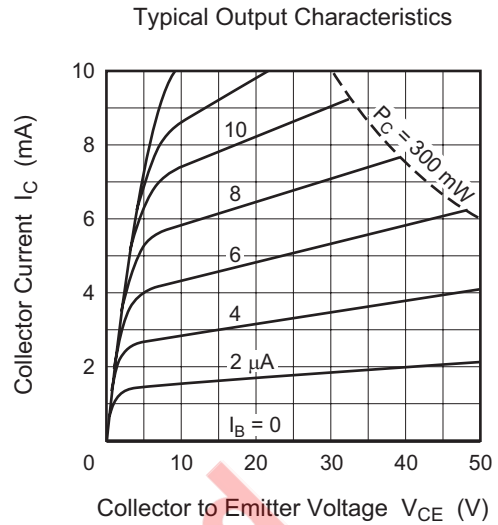
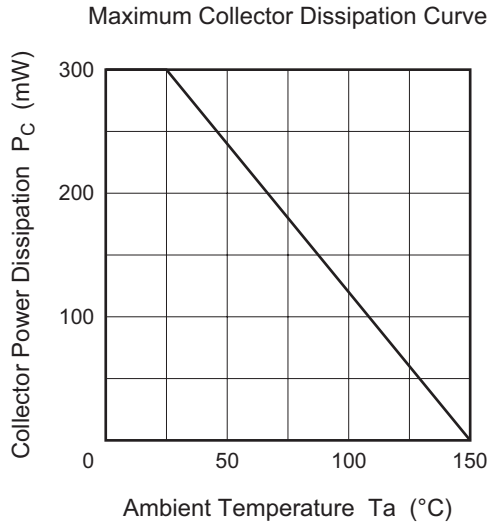
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Collector cutoff current	I_{CBO}	—	—	0.5	μA	$V_{CB} = 100 \text{ V}, I_E = 0$
DC current transfer ratio	h_{FE1}^{*1}	400	—	1200		$V_{CE} = 12 \text{ V}, I_C = 2 \text{ mA}$
	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.

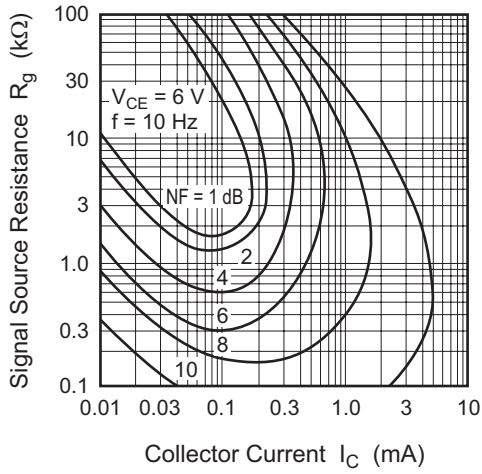
E	F
400 to 800	600 to 1200

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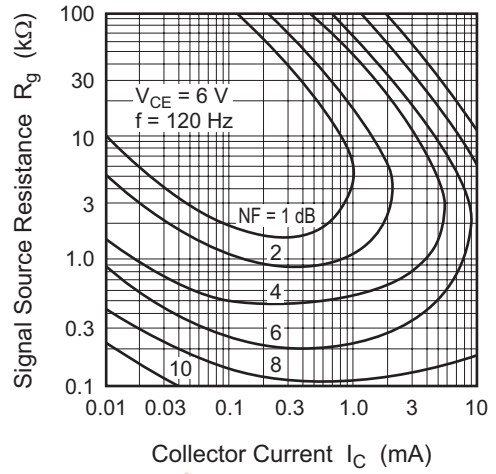
Main Characteristics



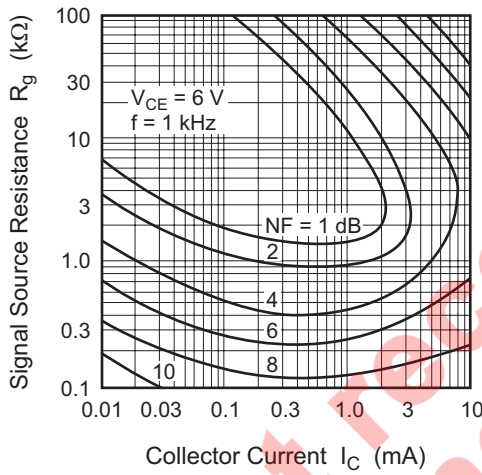
Contours of Constant Noise Figure



Contours of Constant Noise Figure

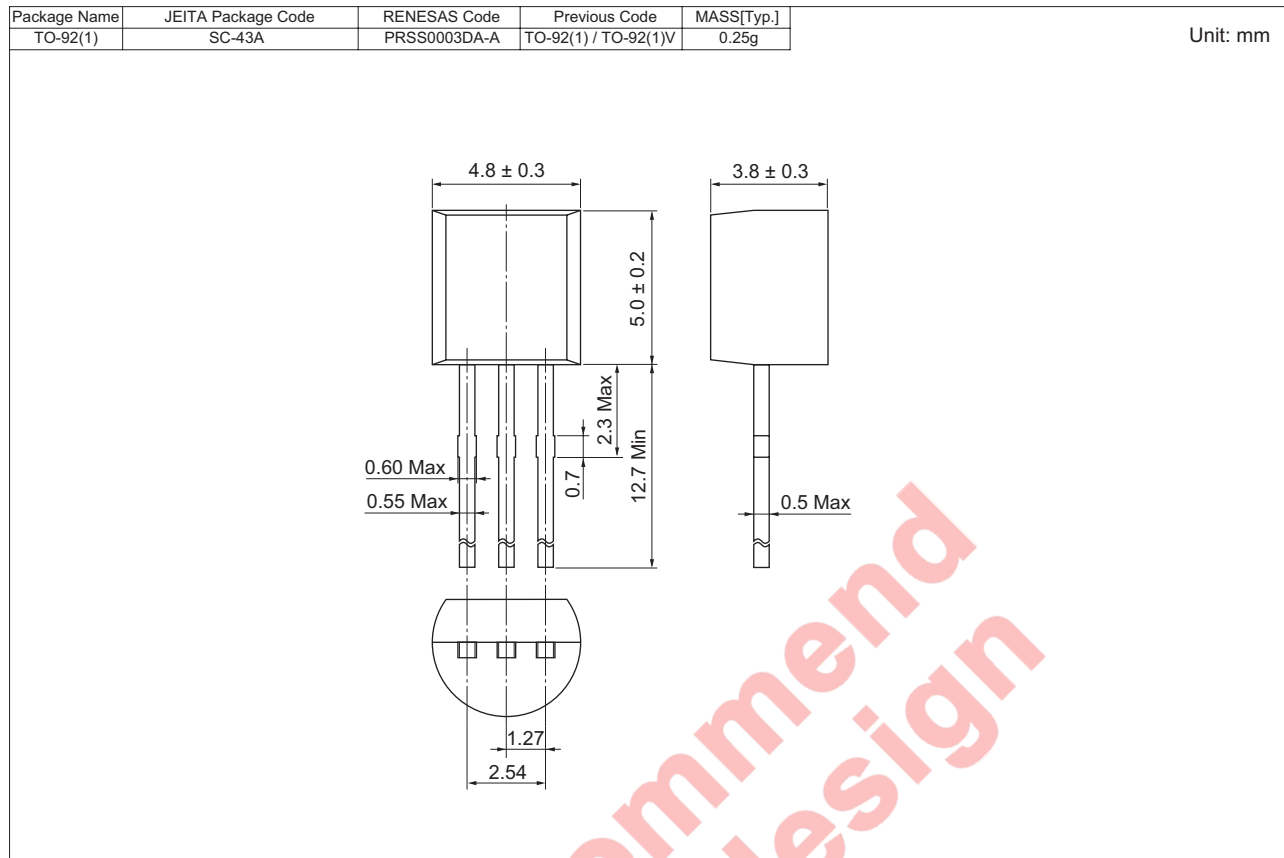


Contours of Constant Noise Figure



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Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SC1775AETZ 2SC1775AFTZ	2500	Hold Box, Radial Taping

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