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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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Not recommended
for new design

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2SC1907

Silicon NPN Epitaxial Planar

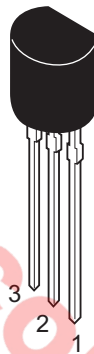
REJ03G0694-0200
 (Previous ADE-208-1059)
 Rev.2.00
 Aug.10.2005

Application

UHF TV Tuner, Local oscillator

Outline

RENESAS Package code: PRSS0003DA-C
 (Package name: TO-92 (2))



1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	19	V
Emitter to base voltage	V_{EBO}	2	V
Collector current	I_C	50	mA
Emitter current	I_E	-50	mA
Collector power dissipation	P_C	300	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

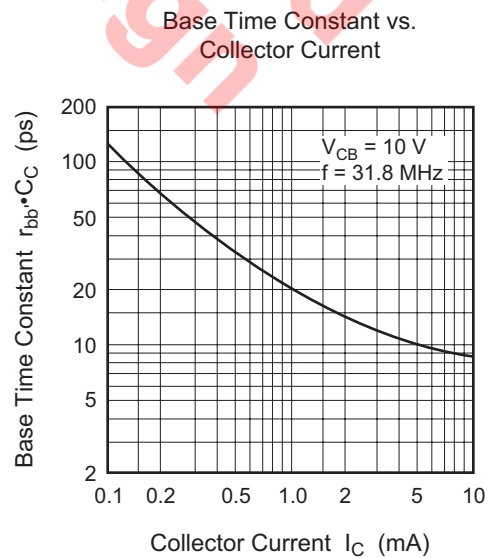
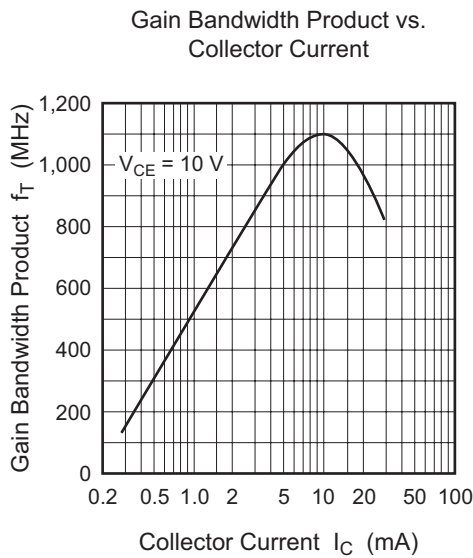
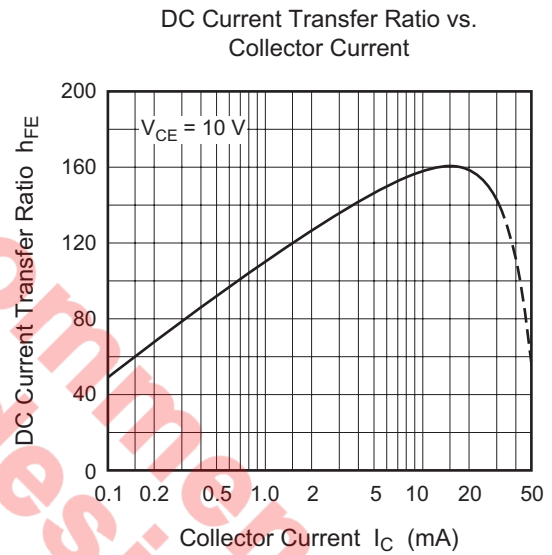
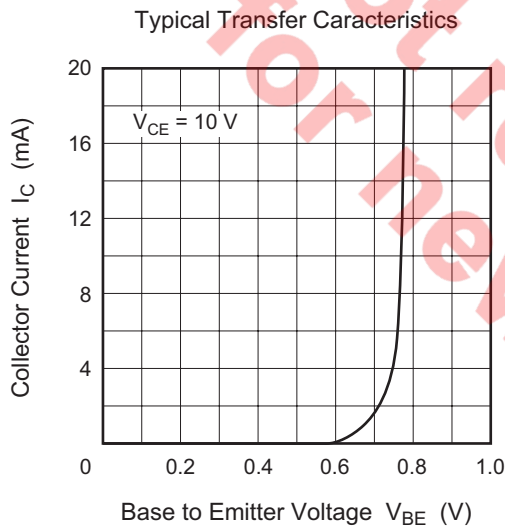
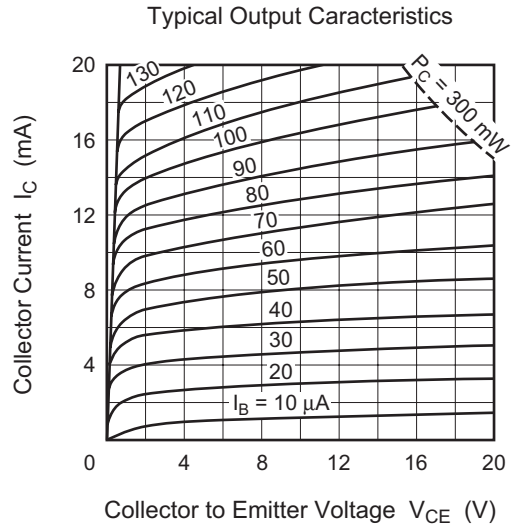
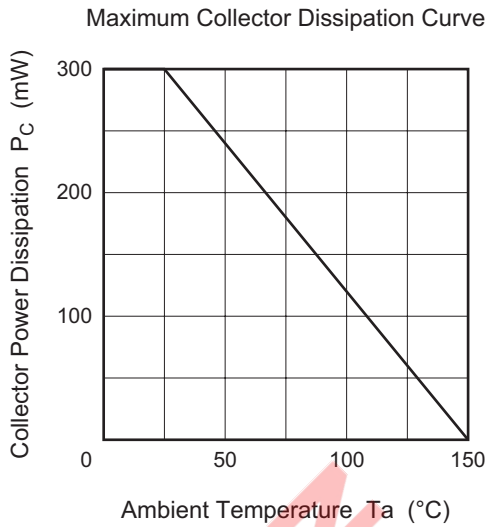
Electrical Characteristics

(Ta = 25°C)

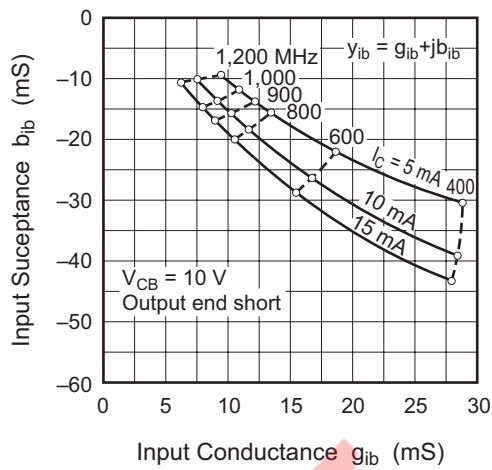
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	30	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	19	—	—	V	$I_C = 3 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	2	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	0.5	μA	$V_{CB} = 10 \text{ V}, I_E = 0$
DC current transfer ratio	h_{FE}	40	—	—		$V_{CE} = 10 \text{ V}, I_C = 10 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.2	1.0	V	$I_C = 20 \text{ mA}, I_B = 4 \text{ mA}$
Collector output capacitance	C_{ob}	—	1.0	2.0	pF	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$
Gain bandwidth product	f_T	900	1100	—	MHz	$V_{CE} = 10 \text{ V}, I_C = 10 \text{ mA}$
Base time constant	$r_{bb'} \cdot C_C$	—	10	25	ps	$V_{CB} = 10 \text{ V}, I_C = 10 \text{ mA}, f = 31.8 \text{ MHz}$
Oscillation output power	P_{out}	—	8	—	mW	$V_{CB} = 10 \text{ V}, I_C = 10 \text{ mA}, f = 930 \text{ MHz}$

Not recommend
for new design

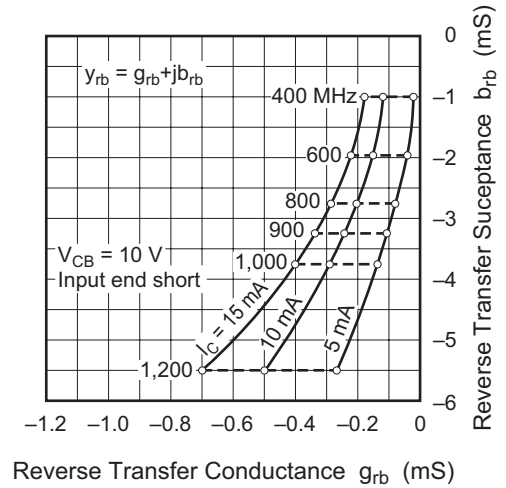
Main Characteristics



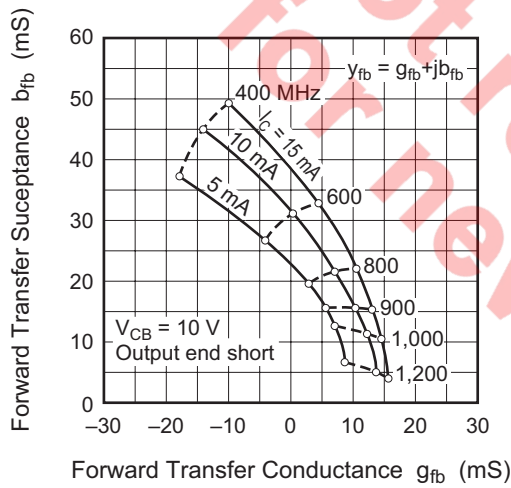
Input Admittance Characteristics



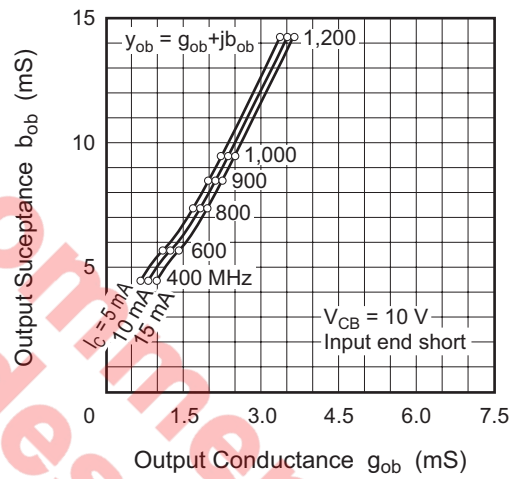
Reverse Transfer Admittance Characteristics



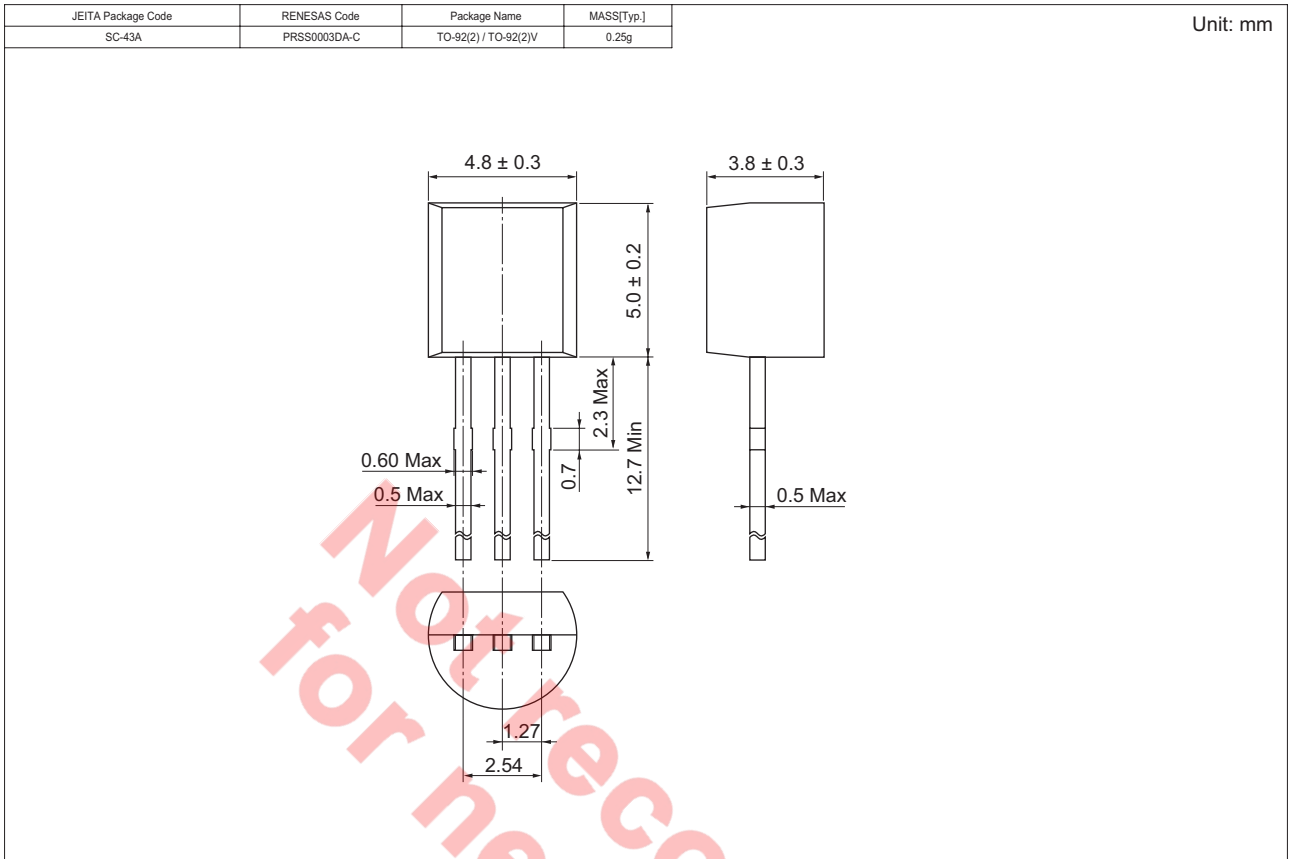
Forward Transfer Admittance Characteristics



Output Admittance Characteristics



Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SC1907TZ-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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