

# 2SC1907

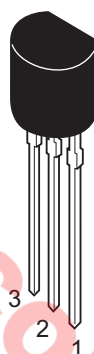
Silicon NPN Epitaxial Planar

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

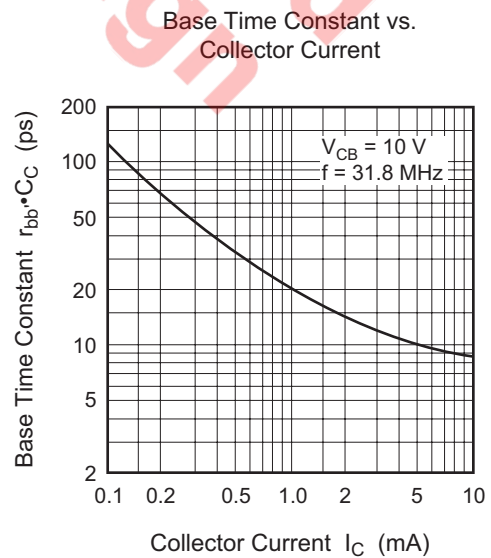
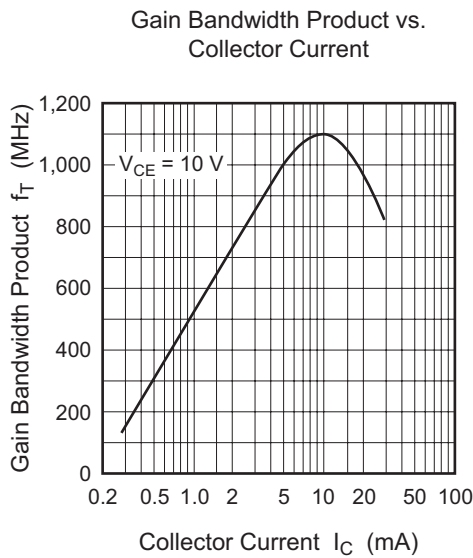
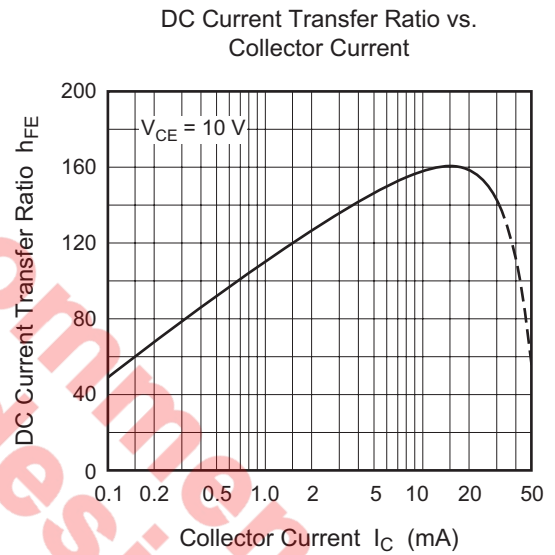
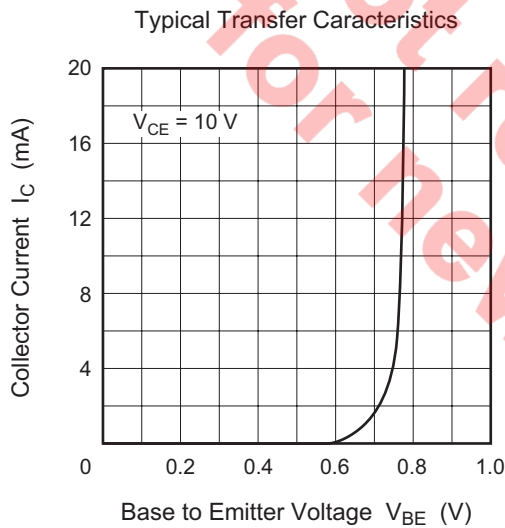
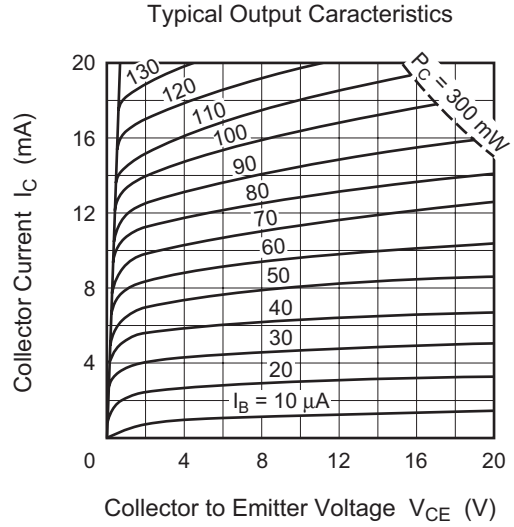
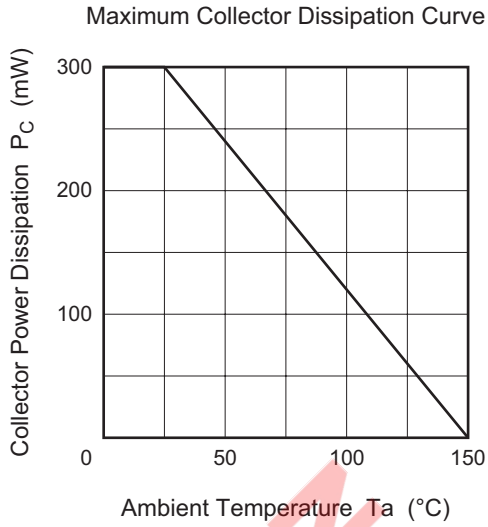
## Electrical Characteristics

(Ta = 25°C)

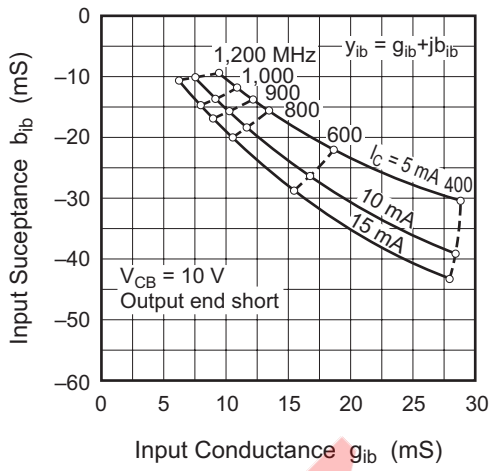
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	30	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	19	—	—	V	$I_C = 3 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	2	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	0.5	$\mu A$	$V_{CB} = 10 \text{ V}, I_E = 0$
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

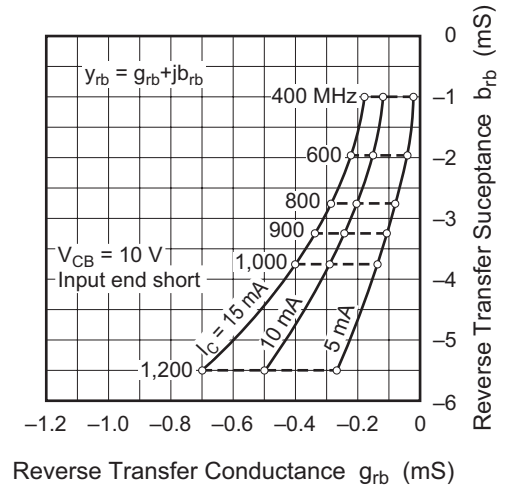
Main Characteristics



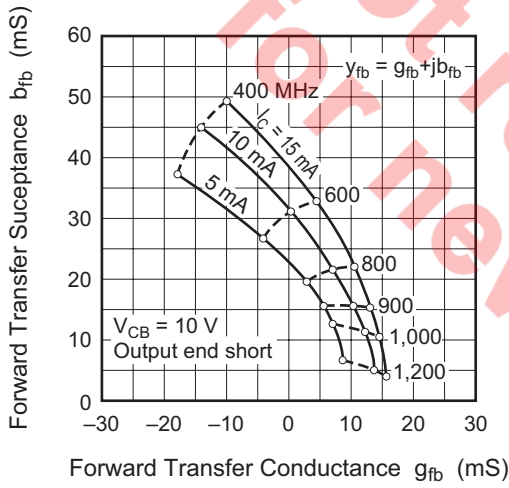
Input Admittance Characteristics



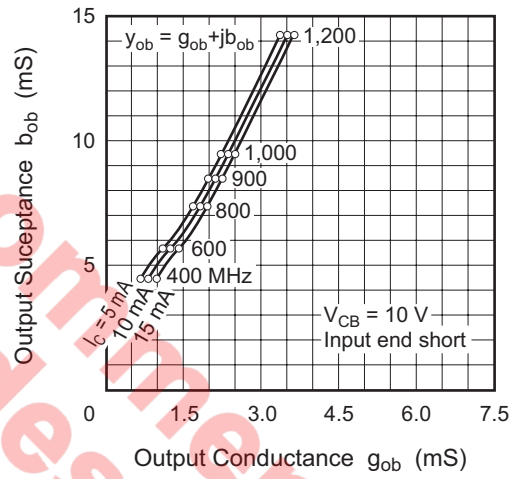
Reverse Transfer Admittance Characteristics



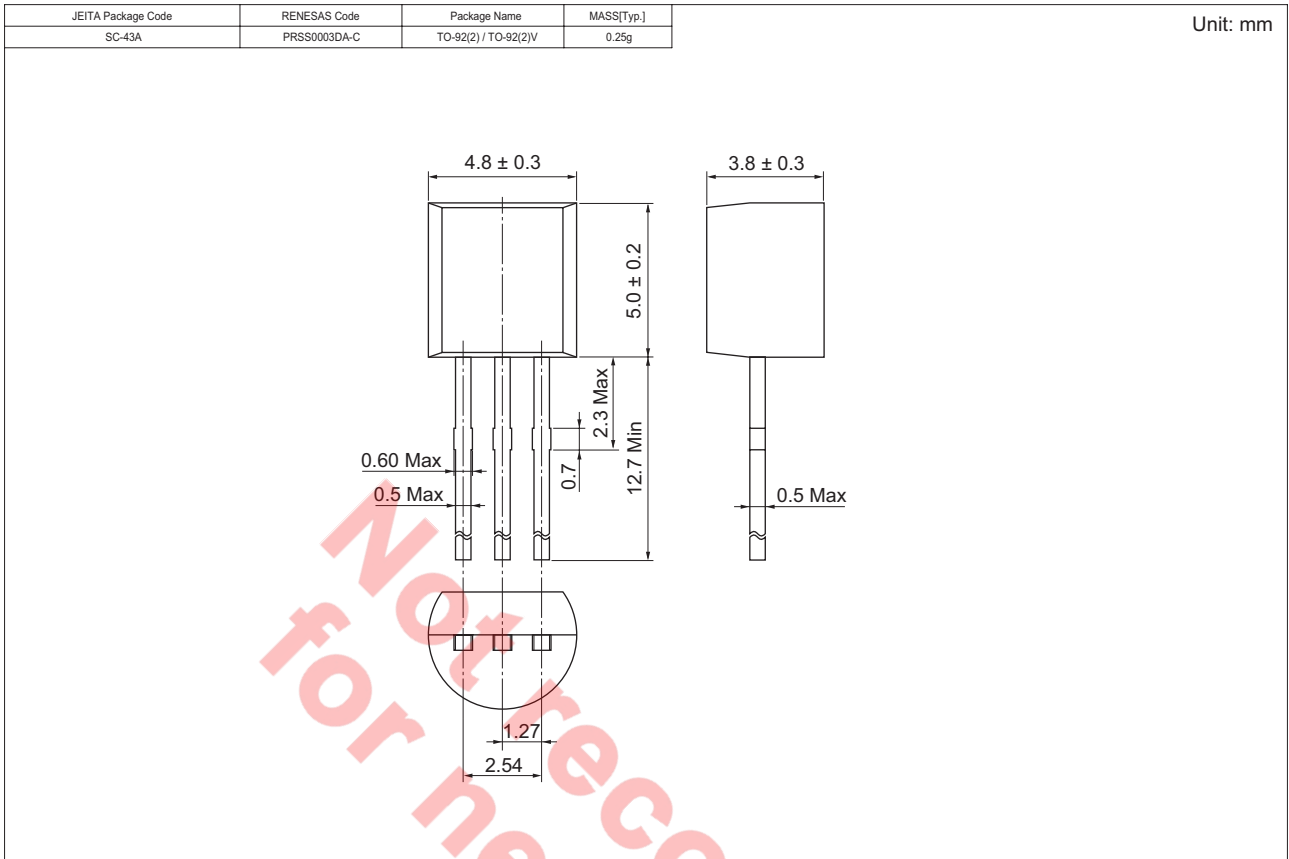
Forward Transfer Admittance Characteristics



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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