

2SC1907

Silicon NPN Epitaxial Planar

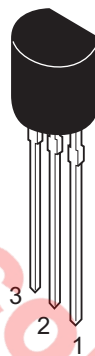
REJ03G0694-0200
(Previous ADE-208-1059)
Rev.2.00
Aug.10.2005

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 |

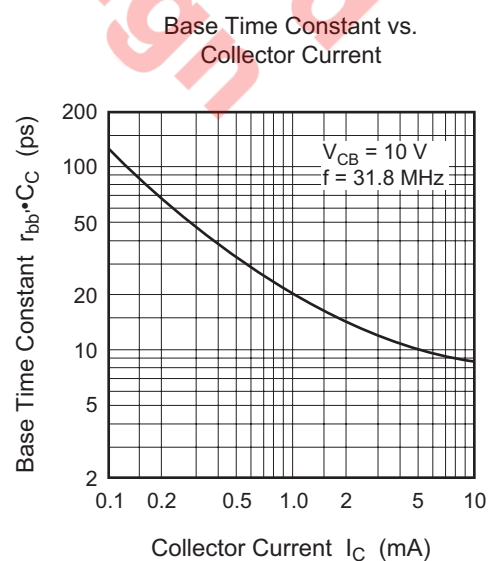
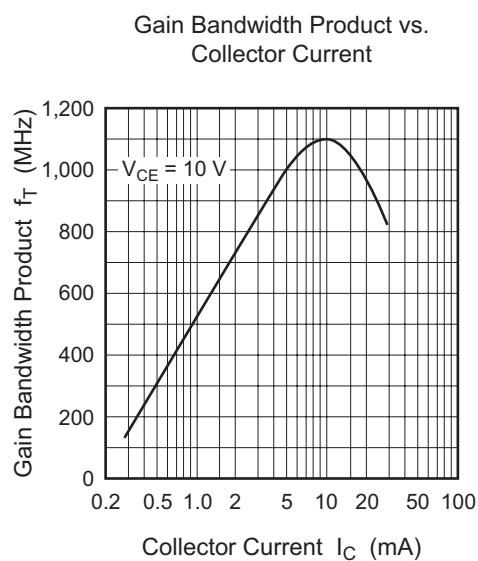
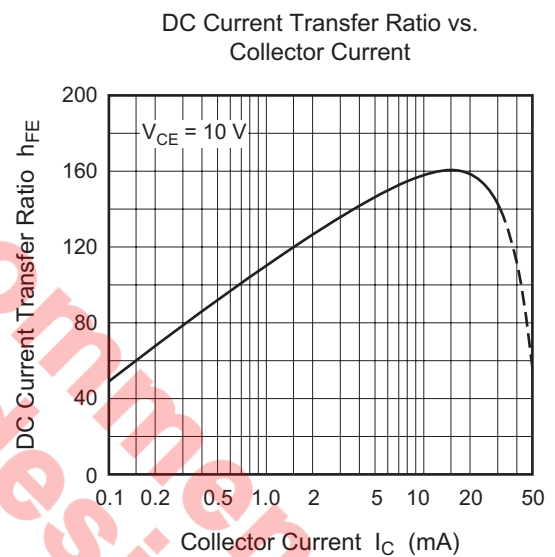
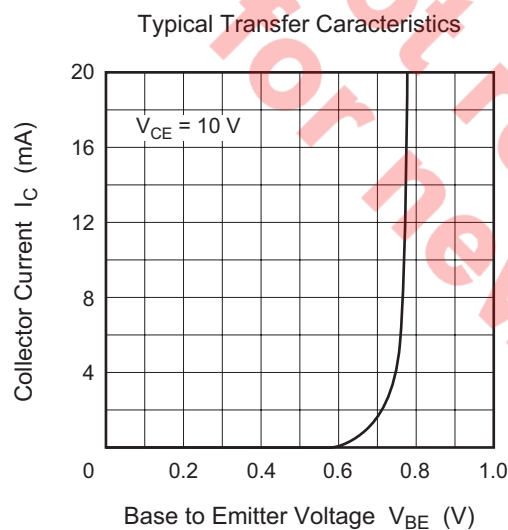
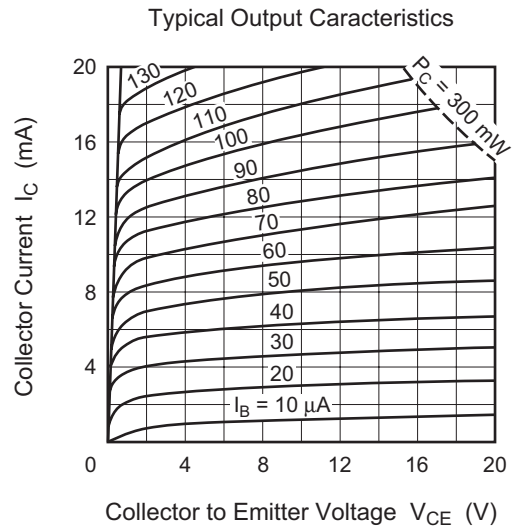
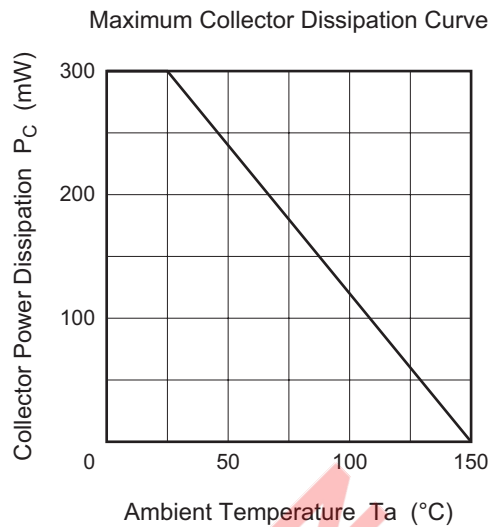
Electrical Characteristics

(Ta = 25°C)

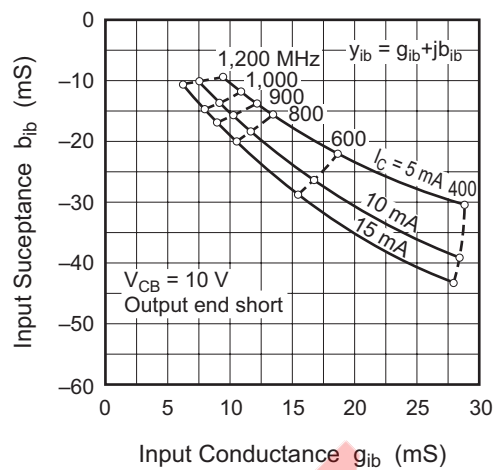
| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|---------------------|-----|------|-----|---------|---|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | 30 | — | — | V | $I_C = 10\ \mu A, I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 19 | — | — | V | $I_C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

Not recommend
for new design

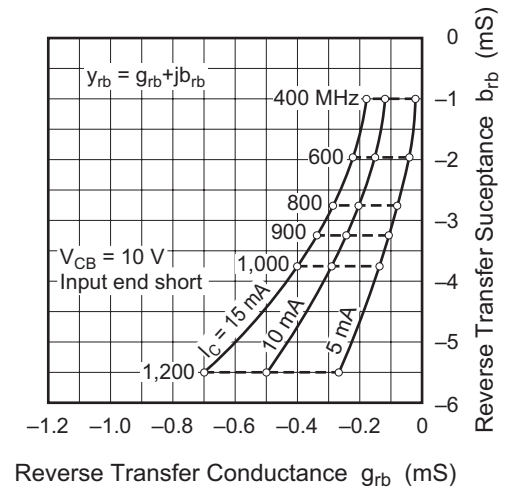
Main Characteristics



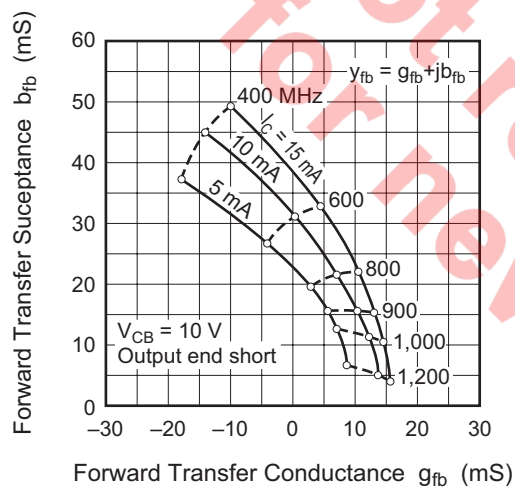
Input Admittance Characteristics



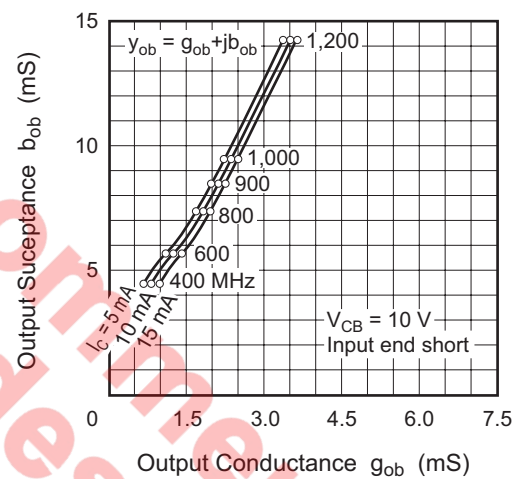
Reverse Transfer Admittance Characteristics



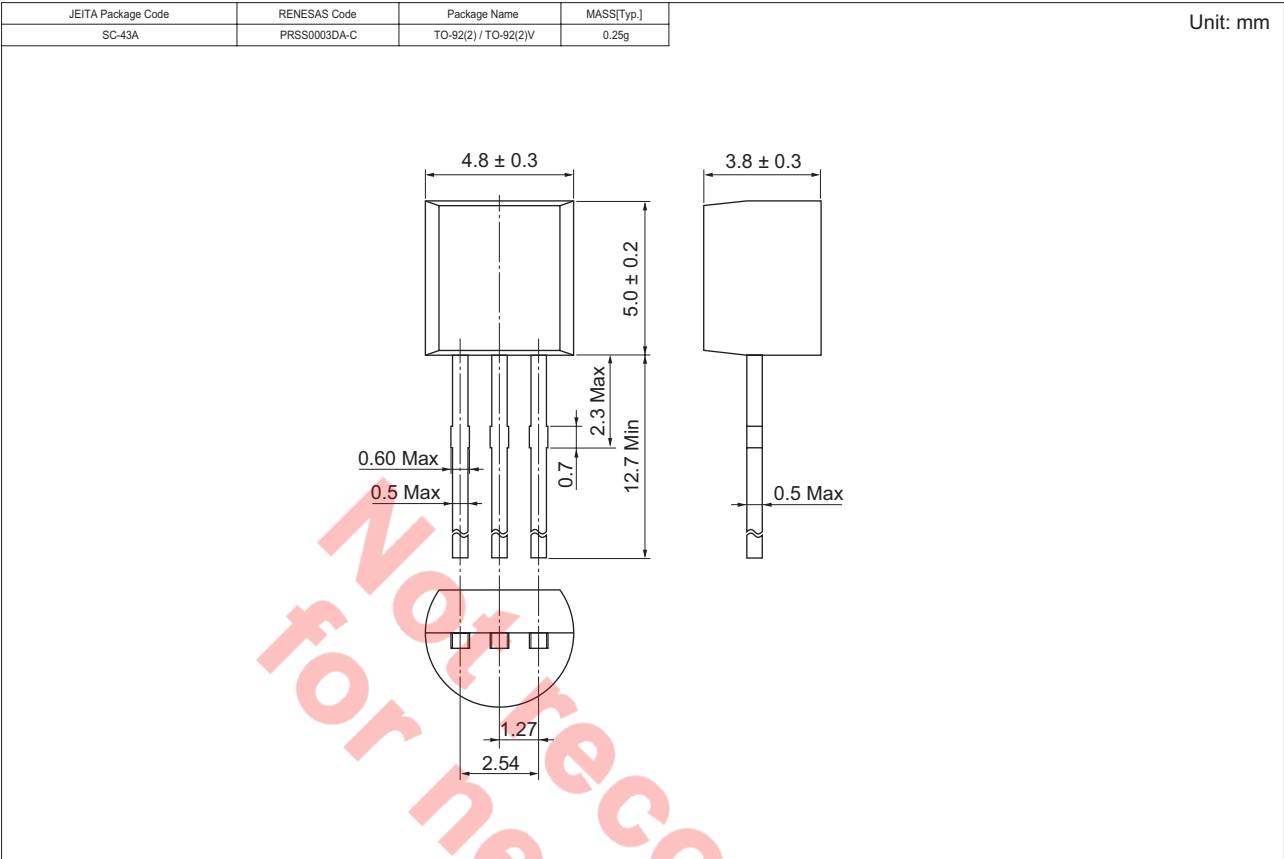
Forward Transfer Admittance Characteristics



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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