

2SC1906

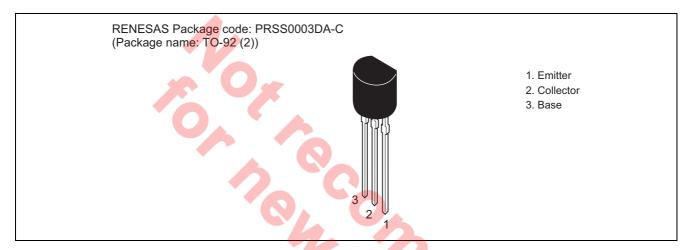
Silicon NPN Epitaxial Planar

REJ03G0693-0200 (Previous ADE-208-1058) Rev.2.00 Aug.10.2005

Application

- VHF amplifier
- Mixer, Local oscillator

Outline



Absolute Maximum Ratings

 $(Ta = 25^{\circ}C)$

| 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 | Ic | 50 | mA |
| Emitter current | I _E | -5 0 | mA |
| Collector power dissipation | P _C | 300 | mW |
| Junction temperature | Tj | 150 | °C |
| Storage temperature | Tstg | -55 to +150 | °C |

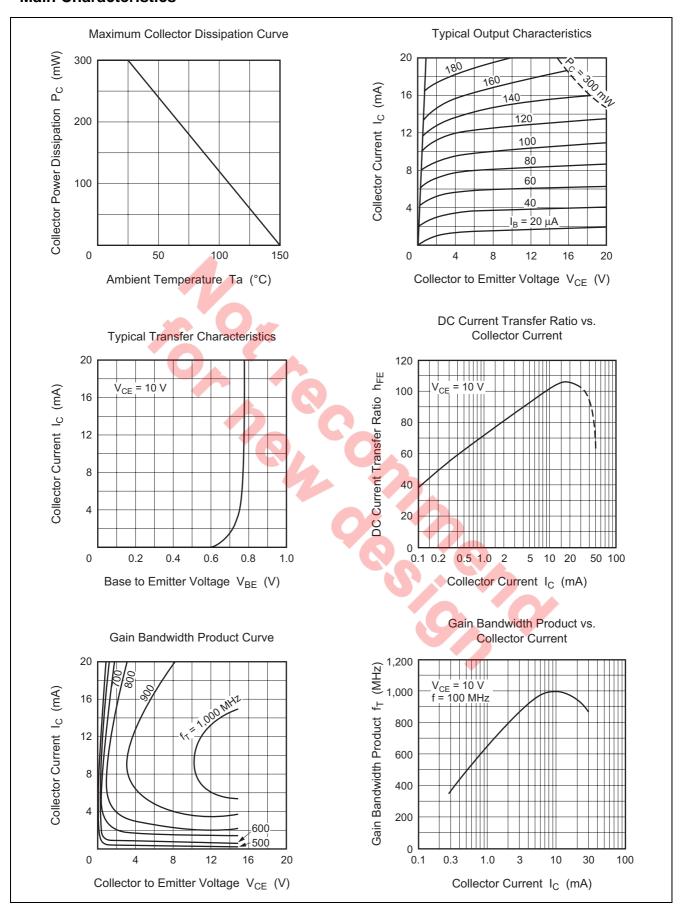
Electrical Characteristics

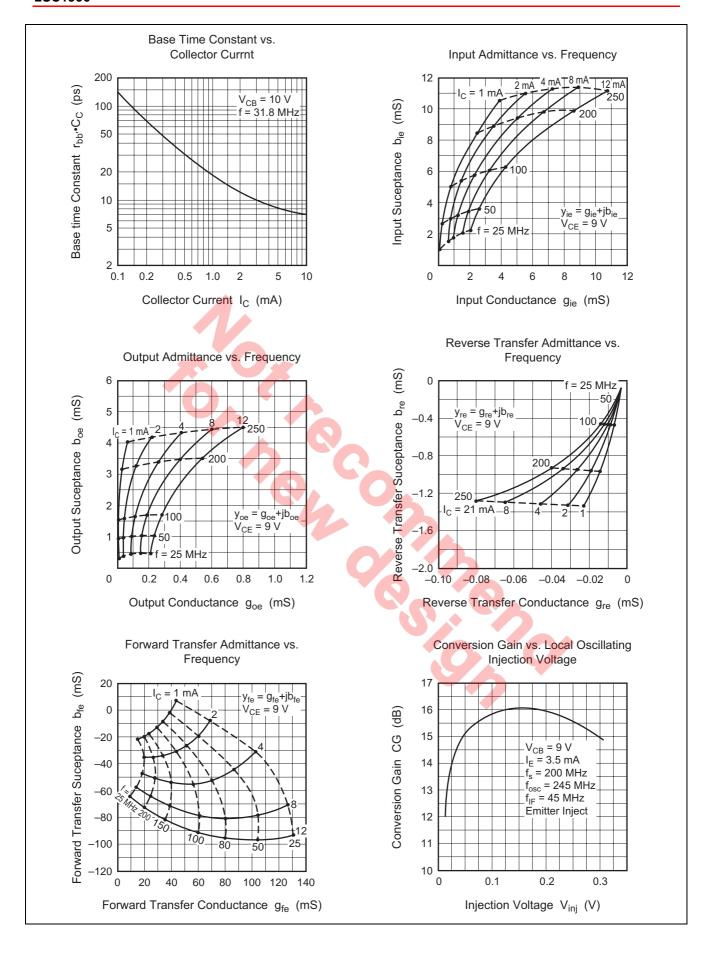
 $(Ta = 25^{\circ}C)$

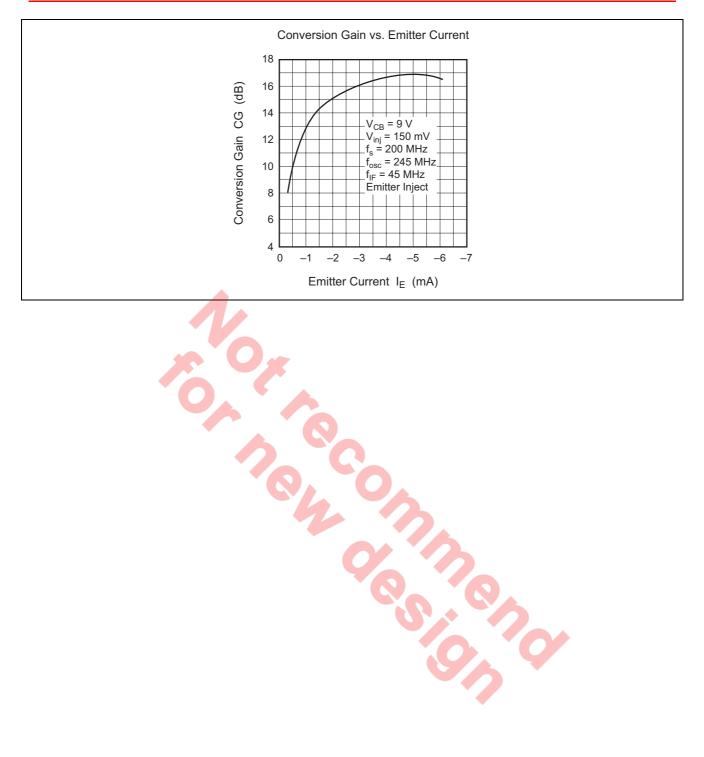
| Item | Symbol | Min | Тур | Max | Unit | Test conditions | |
|---|----------------------------------|-----|------|-----|------|--|--|
| Collector to base breakdown voltage | V _{(BR)CBO} | 30 | _ | _ | V | $I_C = 10 \mu A, I_E = 0$ | |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 19 | _ | _ | 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 | μΑ | $V_{CB} = 10 \text{ V}, I_E = 0$ | |
| DC current transfer ratio | h _{FE} | 40 | _ | _ | | $V_{CE} = 10 \text{ V}, I_{C} = 10 \text{ mA}$ | |
| Gain bandwidth product | f⊤ | 600 | 1000 | _ | MHz | V _{CE} = 10 V, I _C = 10 mA | |
| Collector output capacitance | Cob | _ | 1.0 | 2.0 | pF | V _{CB} = 10 V, I _E = 0, f = 1 MHz | |
| Collector to emitter saturation voltage | V _{CE(sat)} | _ | 0.2 | 1.0 | V | $I_C = 20 \text{ mA}, I_B = 4 \text{ mA}$ | |
| Base time constant | r _{bb′} ∙C _C | _ | 10 | 25 | ps | V _{CB} = 10 V, I _C = 10 mA, f = 31.8 MHz | |
| Power gain | PG | _ | 33 | _ | dB | $V_{CE} = 10 \text{ V}, \qquad f = 45 \text{ MHz}$ $I_{C} = 5 \text{ mA}$ | |
| 1 | | _ | 18 | _ | dB | $V_{CE} = 10 \text{ V},$ $f = 200 \text{ MHz}$ $I_{C} = 5 \text{ mA}$ | |



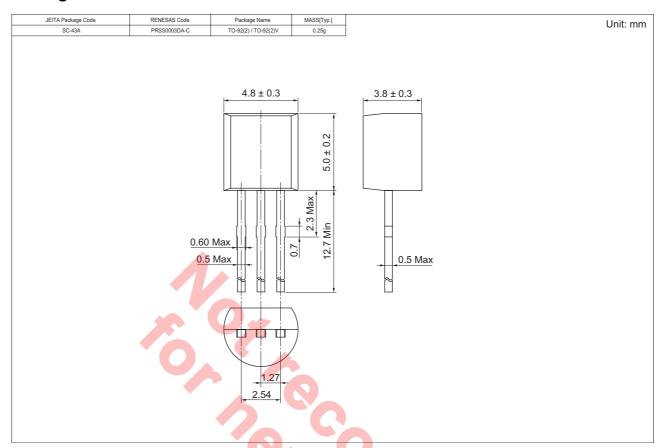
Main Characteristics







Package Dimensions



Ordering Information

| Part Name | Quantity | Shipping Container |
|-------------|----------|-------------------------|
| 2SC1906TZ-E | 2500 | Hold Box, Radial Taping |

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