

2SD788

Silicon NPN Epitaxial

REJ03G0771-0200
 (Previous ADE-208-1139)
 Rev.2.00
 Aug.10.2005

Application

- Low frequency power amplifier
- Complementary pair with 2SB738 and 2SB739

Outline

RENESAS Package code: PRSS0003DC-A
 (Package name: TO-92 Mod)



1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings

(Ta = 25°C)

| Item | Symbol | Ratings | Unit |
|------------------------------|-----------|-------------|------|
| | V_{CBO} | 20 | V |
| Collector to emitter voltage | V_{CEO} | 20 | V |
| Emitter to base voltage | V_{EBO} | 6 | V |
| Collector current | I_C | 2 | A |
| Collector power dissipation | P_C | 0.9 | W |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -50 to +150 | °C |

Electrical Characteristics

(Ta = 25°C)

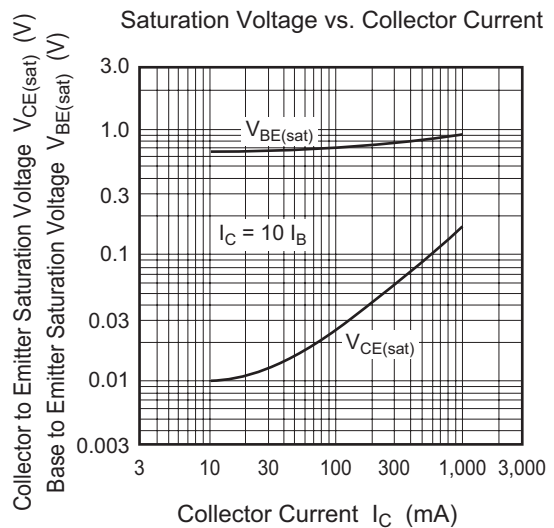
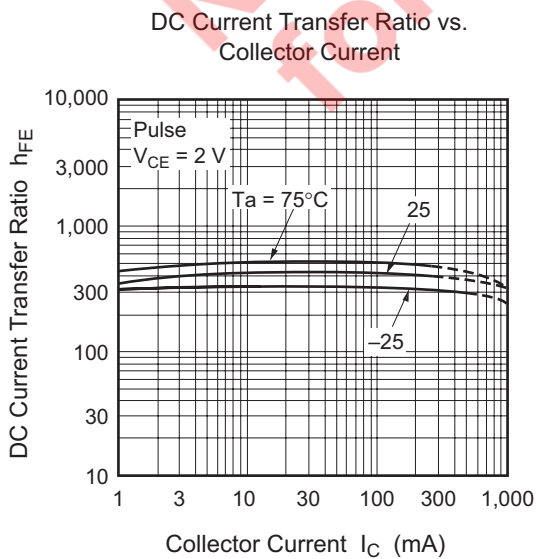
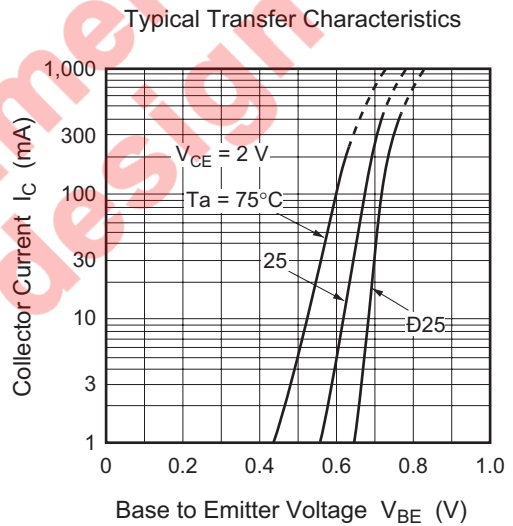
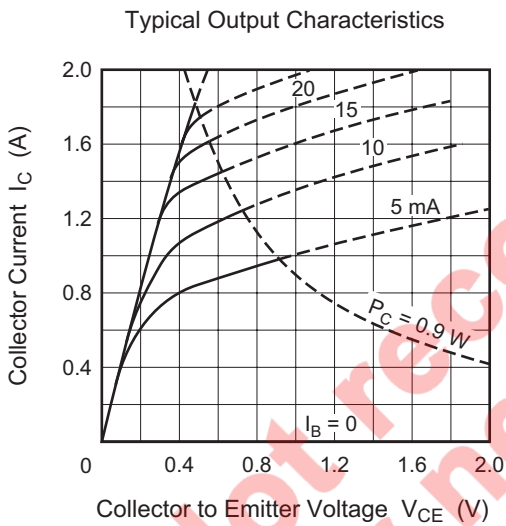
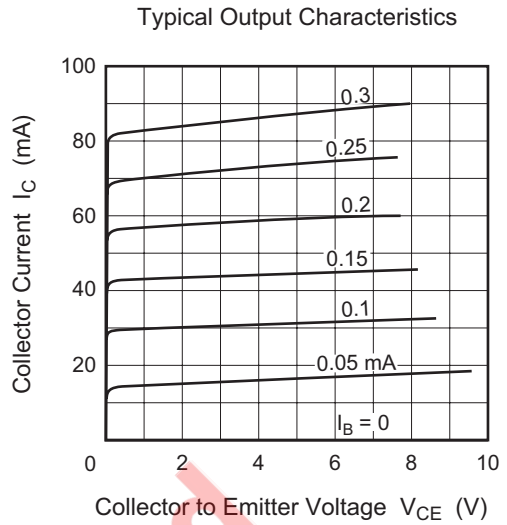
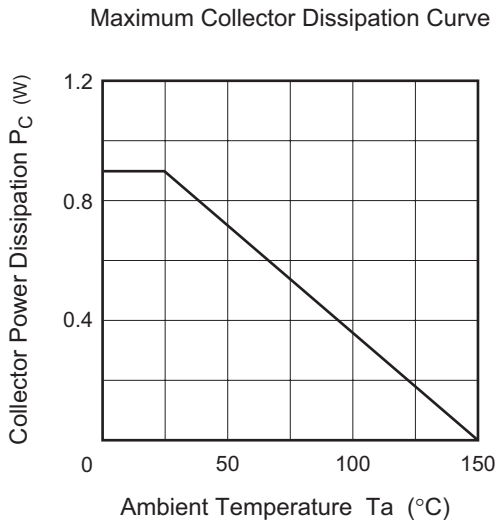
| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|---|---------------|-----|-----|-----|---------|---|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | 20 | — | — | V | $I_C = 10 \mu A, I_E = 0$ |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 20 | — | — | V | $I_C = 1 \text{ mA}, R_{BE} = \infty$ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | 6 | — | — | V | $I_E = 10 \mu A, I_C = 0$ |
| Collector cutoff current | I_{CBO} | — | — | 2 | μA | $V_{CB} = 16 \text{ V}, I_E = 0$ |
| Emitter cutoff current | I_{EBO} | — | — | 0.2 | μA | $V_{EB} = 6 \text{ V}, I_C = 0$ |
| DC current transfer ratio | h_{FE}^{*1} | 160 | — | 500 | | $V_{CE} = 2 \text{ V}, I_C = 0.1 \text{ A}$ |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | — | 0.3 | V | $I_C = 1 \text{ A}, I_B = 0.1 \text{ A}$ |
| Gain bandwidth product | f_T | — | 100 | — | MHz | $V_{CE} = 2 \text{ V}, I_C = 10 \text{ mA}$ |
| Collector output capacitance | C_{ob} | — | 20 | — | pF | $V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ |

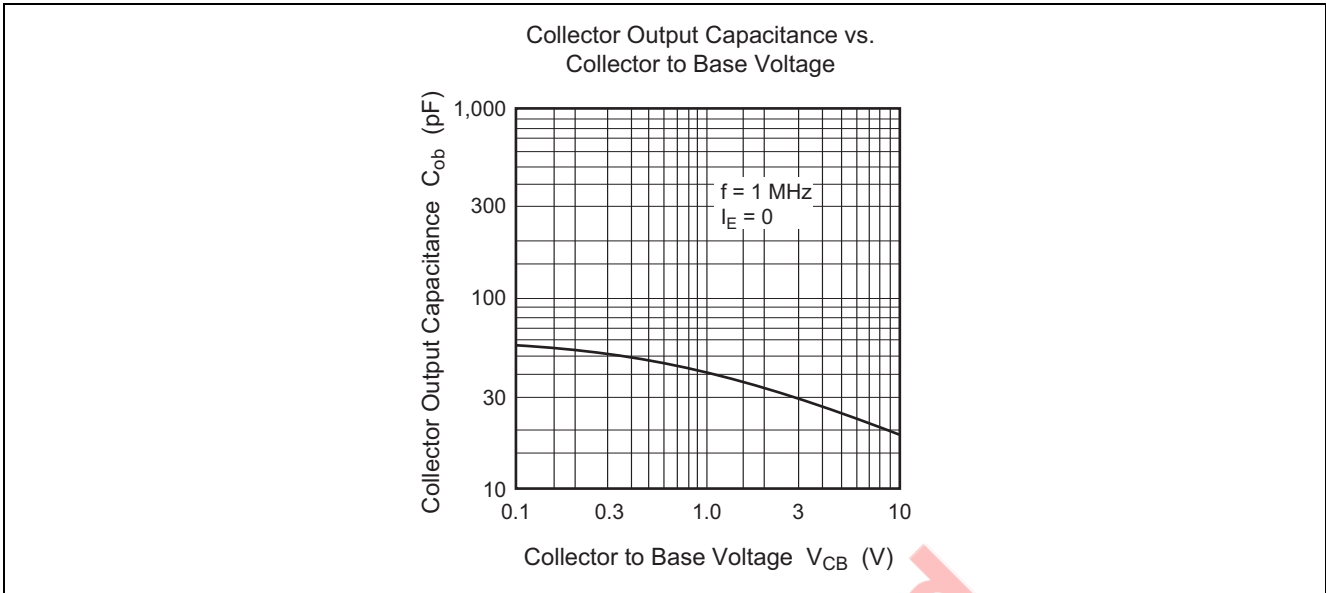
Note: 1. The 2SD788 is grouped by h_{FE} as follows.

| C | D |
|------------|------------|
| 160 to 320 | 250 to 500 |

Not recommend
for new design

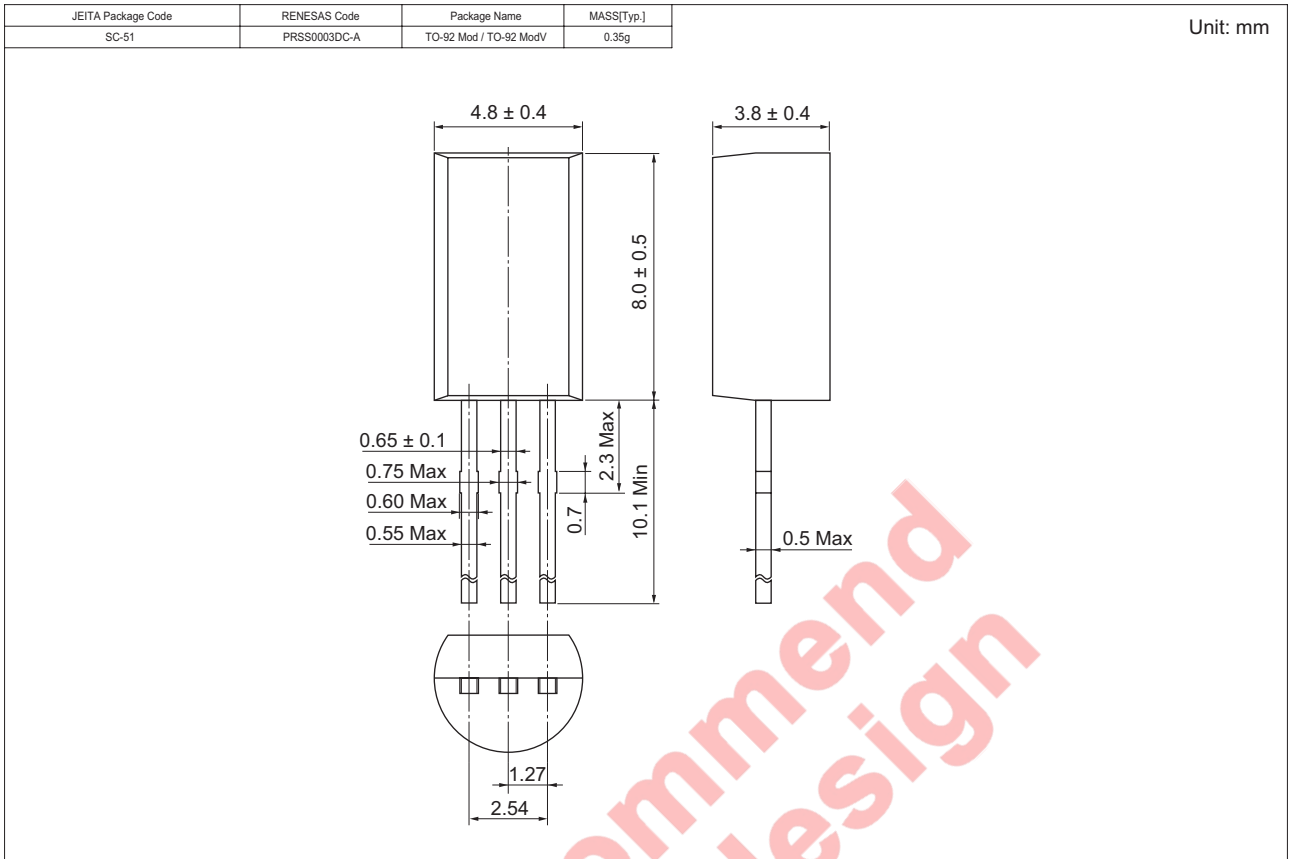
Main Characteristics





Not recommended for new design

Package Dimensions



Ordering Information

| Part Name | Quantity | Shipping Container |
|----------------------------|----------|-------------------------|
| 2SD788CTZ-E 2SD788DTZ-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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