

## 2SB1001

### Silicon PNP Epitaxial

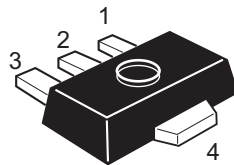
REJ03G0659-0200  
(Previous ADE-208-1034)  
Rev.2.00  
Aug.10.2005

#### Application

- Low frequency power amplifier
- Complementary pair with 2SD1367

#### Outline

RENESAS Package code: PLZZ0004CA-A  
(Package name: UPAK<sup>®</sup>)



1. Base
2. Collector
3. Emitter
4. Collector (Flange)

\*UPAK is a trademark of Renesas Technology Corp.

#### Absolute Maximum Ratings

(Ta = 25°C)

| Item                         | Symbol             | Ratings     | Unit |
|------------------------------|--------------------|-------------|------|
| Collector to base voltage    | $V_{CBO}$          | -20         | V    |
| Collector to emitter voltage | $V_{CEO}$          | -16         | V    |
| Emitter to base voltage      | $V_{EBO}$          | -6          | V    |
| Collector current            | $I_C$              | -2          | A    |
| Collector peak current       | $i_{C(peak)}^{*1}$ | -3          | A    |
| Collector power dissipation  | $P_C^{*2}$         | 1           | W    |
| Junction temperature         | $T_J$              | 150         | °C   |
| Storage temperature          | $T_{stg}$          | -55 to +150 | °C   |

Notes: 1.  $PW \leq 10$  ms, Duty cycle  $\leq 20\%$

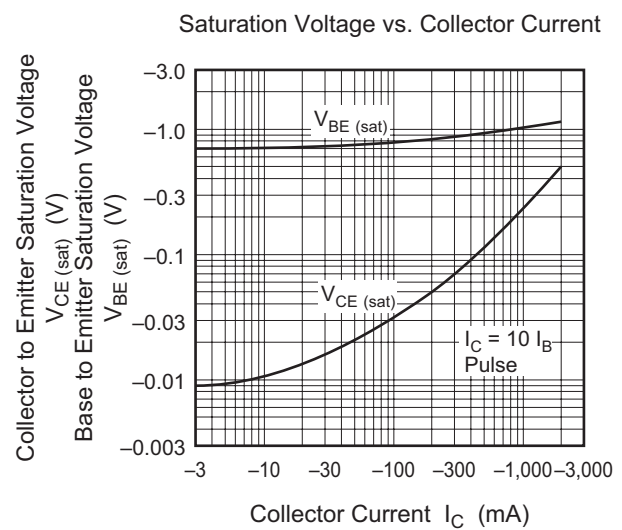
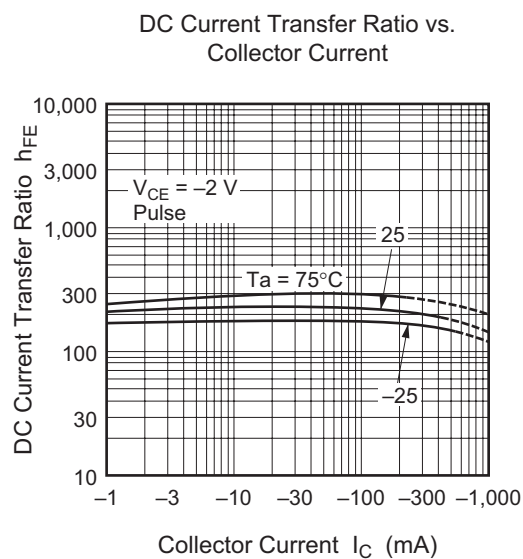
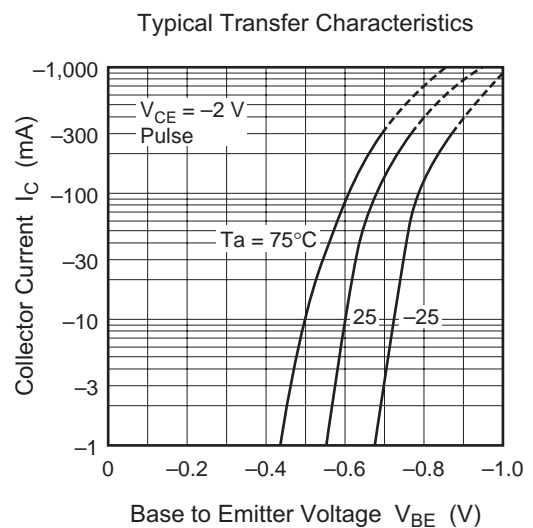
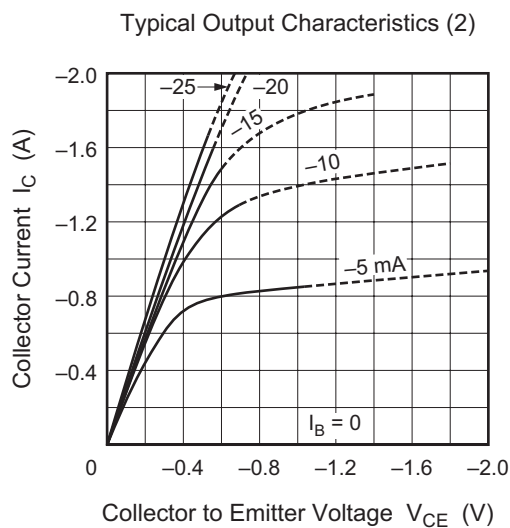
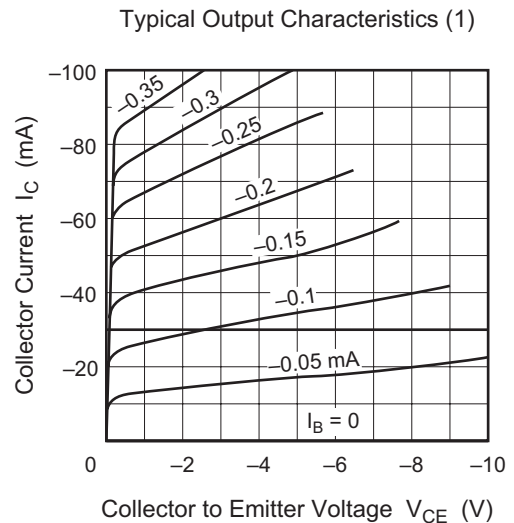
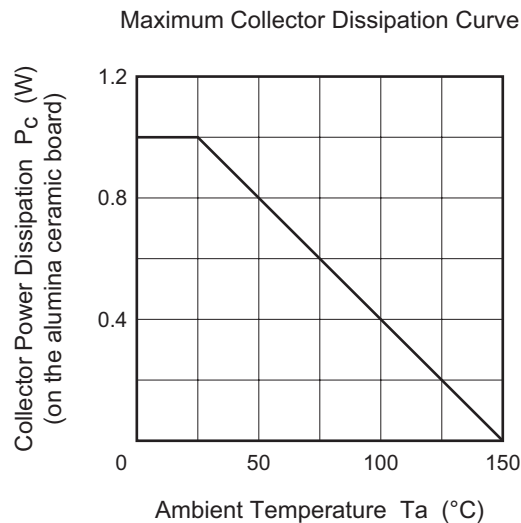
2. Value on the alumina ceramic board (12.5 × 20 × 0.7 mm)

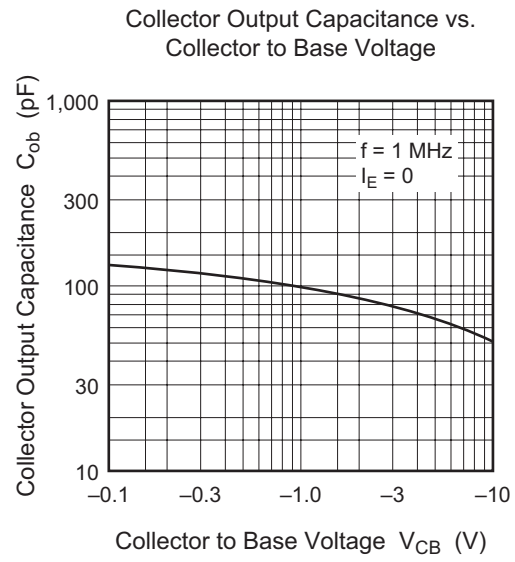
## Electrical Characteristics

(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  | $V_{(BR)CEO}$ | -16 | —     | —    | V       | $I_C = -1\ mA$ , $R_{BE} = \infty$                 |
| Emitter to base breakdown voltage       | $V_{(BR)EBO}$ | -6  | —     | —    | V       | $I_E = -10\ \mu A$ , $I_C = 0$                     |
| Collector cutoff current                | $I_{CBO}$     | —   | —     | -0.1 | $\mu A$ | $V_{CB} = -16\ V$ , $I_E = 0$                      |
| Emitter cutoff current                  | $I_{EBO}$     | —   | —     | -0.1 | $\mu A$ | $V_{EB} = -5\ V$ , $I_C = 0$                       |
| DC current transfer ratio               | $h_{FE}$      | 160 | —     | 320  |         | $V_{CE} = -2\ V$ ,<br>$I_C = -0.1\ A$ (Pulse test) |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | —   | -0.15 | -0.3 | V       | $I_C = -1\ A$ ,<br>$I_B = -0.1\ A$ (Pulse test)    |
| Base to emitter saturation voltage      | $V_{BE(sat)}$ | —   | -1.0  | -1.2 | V       | $I_C = -1\ A$ ,<br>$I_B = -0.1\ A$ (Pulse test)    |
| Gain bandwidth product                  | $f_T$         | —   | 150   | —    | MHz     | $V_{CE} = -2\ V$ ,<br>$I_C = -10\ mA$              |
| Collector output capacitance            | $C_{ob}$      | —   | 50    | —    | pF      | $V_{CB} = -10\ V$ , $I_E = 0$ ,<br>$f = 1\ MHz$    |

## Main Characteristics

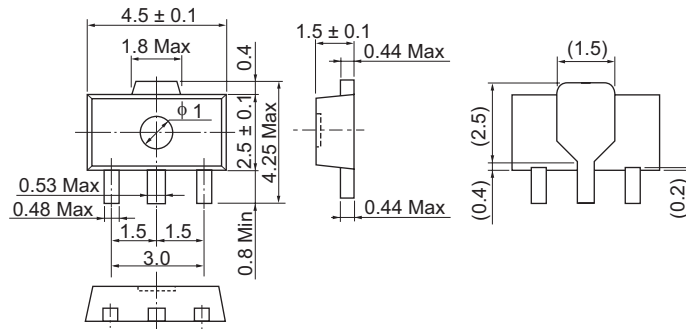




## Package Dimensions

|                    |              |              |            |
|--------------------|--------------|--------------|------------|
| JEITA Package Code | RENESAS Code | Package Name | MASS[Typ.] |
| SC-62              | PLZZ0004CA-A | UPAK / UPAKV | 0.050g     |

Unit: mm



## Ordering Information

| Part Name     | Quantity | Shipping Container                      |
|---------------|----------|---|
| 2SB1001BJTR-E | 1000     | $\phi$ 178 mm Reel, 12 mm Emboss 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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