

Silicon PNP Epitaxial

REJ03G0661-0200 (Previous ADE-208-1036) Rev.2.00 Aug.10.2005

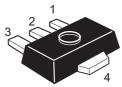
## Application

### • Low frequency power amplifier

• Complementary pair with 2SD1418

### Outline

RENESAS Package code: PLZZ0004CA-A (Package name: UPAK  $^{\textcircled{R}})$ 



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 <sub>CBO</sub>                    | -120        | V           |
| Collector to emitter voltage | V <sub>CEO</sub>                    | -80         | V           |
| Emitter to base voltage      | V <sub>EBO</sub>                    | -5          | V           |
| Collector current            | I <sub>C</sub>                      | -1          | A           |
| Collector peak current       | i <sub>C(peak)</sub> * <sup>1</sup> | -2          | A           |
| Collector power dissipation  | Pc*2                                | 1           | W           |
| Junction temperature         | Tj                                  | 150         | °C          |
| Storage temperature          | Tstg                                | -55 to +150 | °C          |

Notes: 1.  $PW \le 10 \text{ ms}$ ,  $Duty cycle \le 20\%$ 

2. Value on the alumina ceramic board (12.5  $\times$  20  $\times$  0.7 mm)

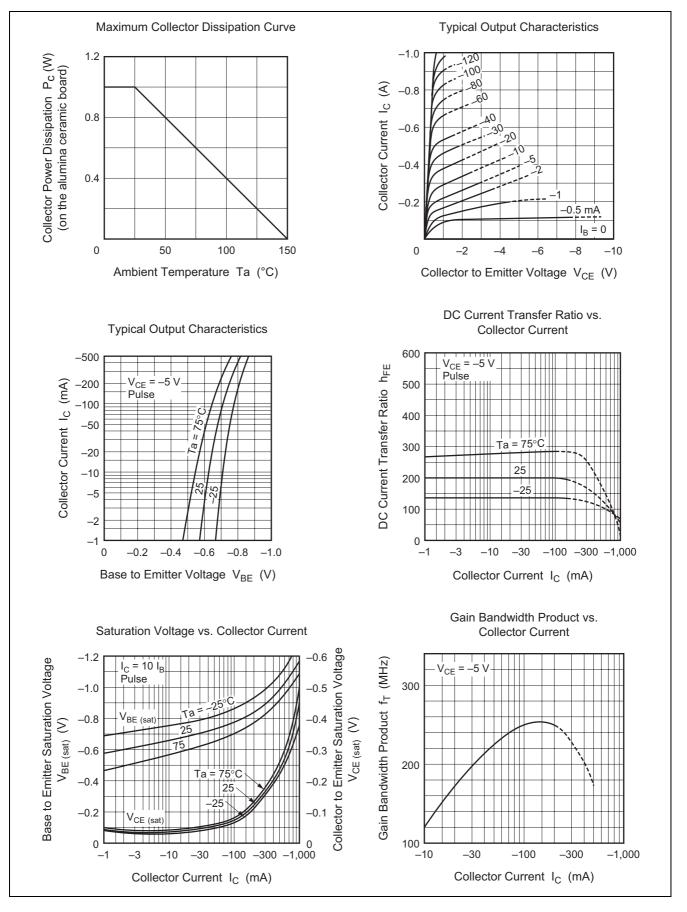


# **Electrical Characteristics**

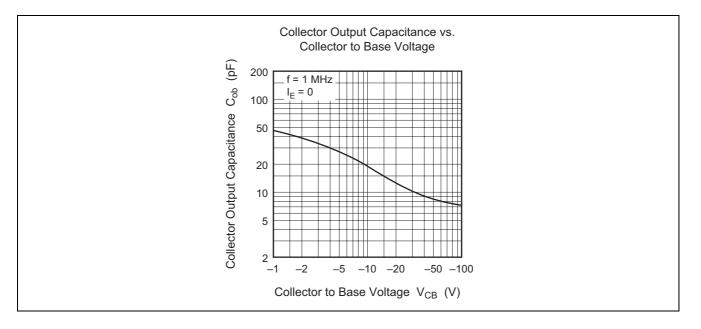
|   |                      |      |     |      |      | (Ta = 25°C)  |
|---|----------------------|------|-----|------|------|--|
| ltem                                    | Symbol               | Min  | Тур | Max  | Unit | Test conditions  |
| Collector to base breakdown voltage     | V <sub>(BR)CBO</sub> | -120 | —   |      | V    | $I_{\rm C} = -10 \ \mu A, \ I_{\rm E} = 0$               |
| Collector to emitter breakdown voltage  | V <sub>(BR)CEO</sub> | -80  | —   |      | V    | $I_{C} = -1 \text{ mA}, R_{BE} = \infty$                 |
| Emitter to base breakdown voltage       | V <sub>(BR)EBO</sub> | -5   | —   | _    | V    | $I_E = -10 \ \mu A, \ I_C = 0$                           |
| Collector cutoff current                | I <sub>CBO</sub>     | —    | —   | -10  | μA   | $V_{CB} = -100 \text{ V}, I_E = 0$                       |
| DC current transfer ratio               | h <sub>FE1</sub>     | 100  | —   | 200  |      | $V_{CE} = -5 \text{ V}, I_C = -150 \text{ mA}$           |
|   | h <sub>FE2</sub>     | 30   | —   | _    |      | $V_{CE} = -5 V,$   |
|   |                      |      |     |      |      | I <sub>C</sub> = -500 mA (Pulse test)                    |
| Collector to emitter saturation voltage | V <sub>CE(sat)</sub> | _    | _   | -1   | V    | $I_{\rm C} = -500 \text{ mA},$                           |
|   |                      |      |     |      |      | $I_B = -50 \text{ mA}$ (Pulse test)                      |
| Base to emitter voltage                 | V <sub>BE</sub>      | —    | —   | -0.9 | V    | $V_{CE} = -5 \text{ V}, I_C = -150 \text{ mA}$           |
| Gain bandwidth product                  | f⊤                   | _    | 140 |      | MHz  | $V_{CE} = -5 \text{ V}, \text{ I}_{C} = -150 \text{ mA}$ |
| Collector output capacitance            | Cob                  | _    | 20  |      | pF   | $V_{CB} = -10 \text{ V}, I_E = 0,$                       |
|   |                      |      |     |      |      | f = 1 MHz  |



### **Main Characteristics**

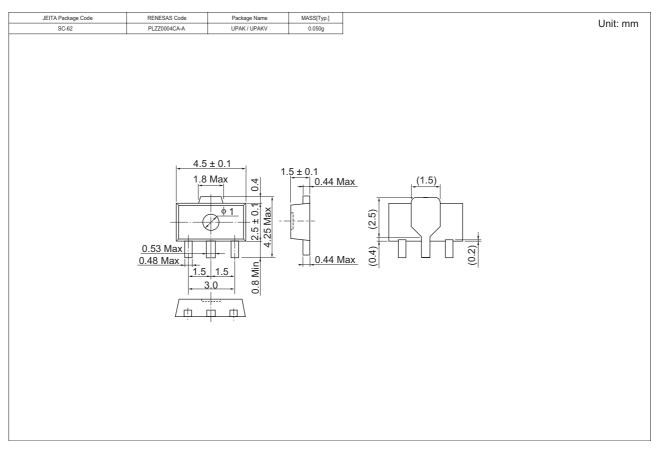








# Package Dimensions



## **Ordering Information**

| Part Name     | Quantity | Shipping Container                 |
|---------------|----------|------------------------------------|
| 2SB1025DJTL-E | 1000     | φ 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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