

## 2SB1001

Silicon PNP Epitaxial

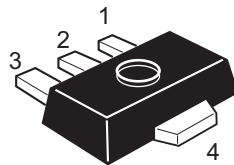
REJ03G0659-0200  
 (Previous ADE-208-1034)  
 Rev.2.00  
 Aug.10.2005

### 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  $\leq 20\%$

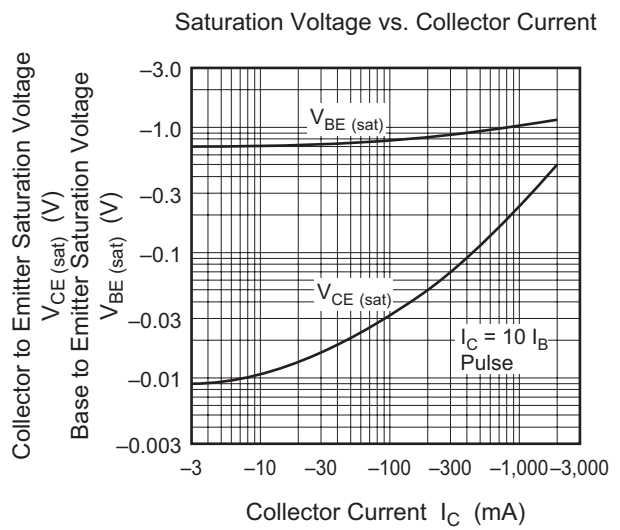
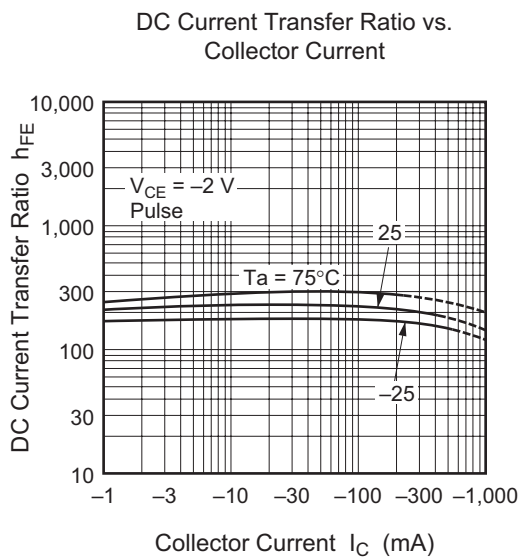
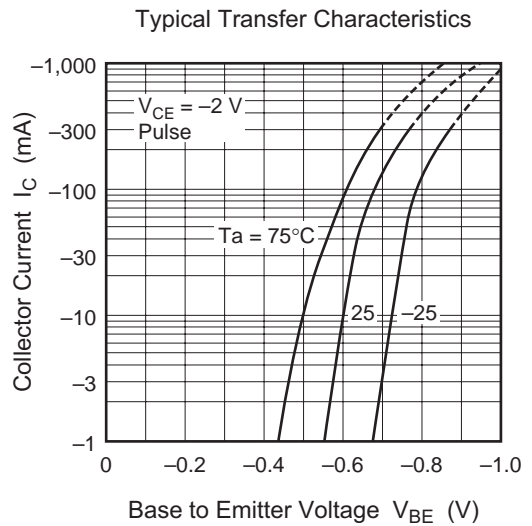
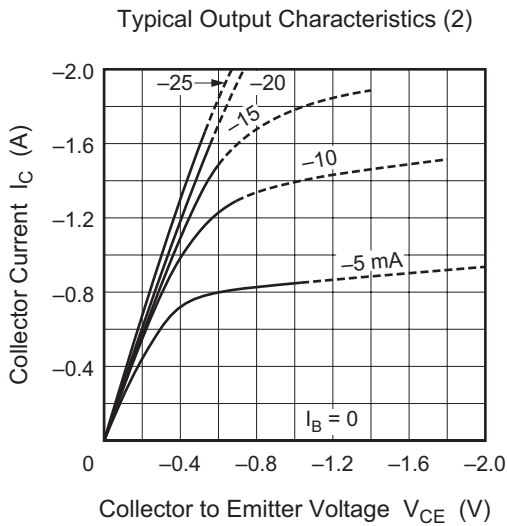
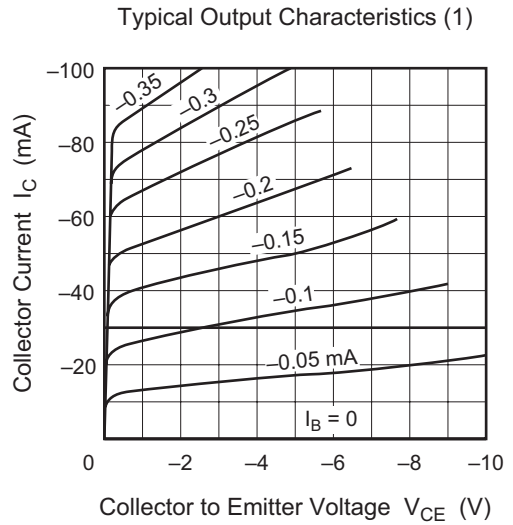
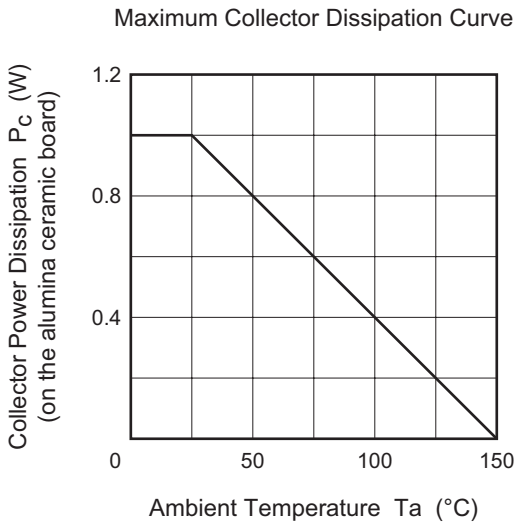
2. Value on the alumina ceramic board (12.5 × 20 × 0.7 mm)

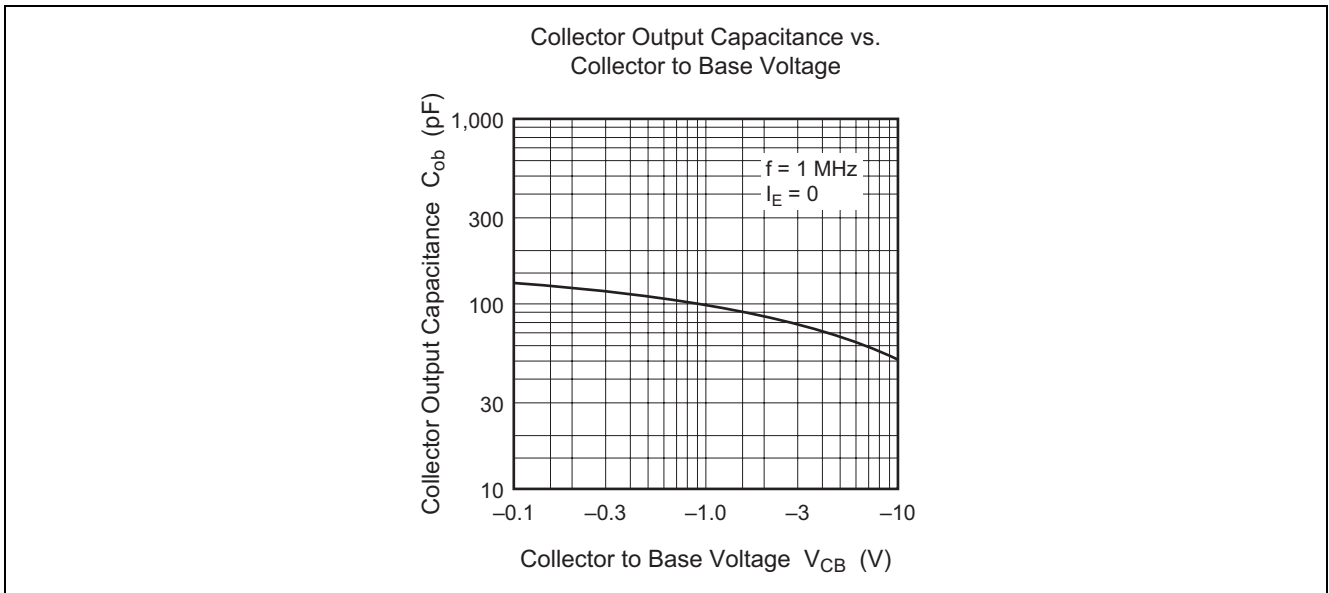
## Electrical Characteristics

(Ta = 25°C)

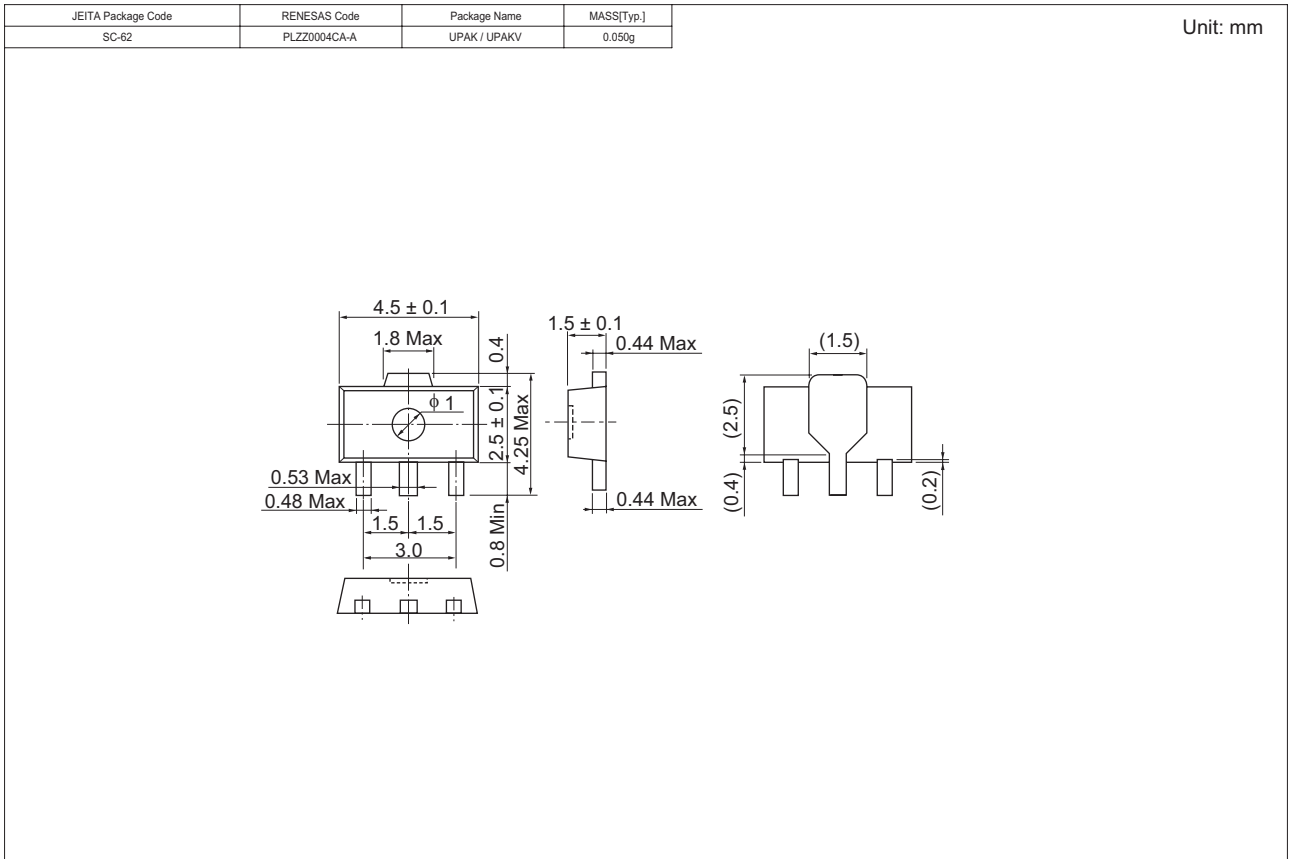
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-20	—	—	V	$I_C = -10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-16	—	—	V	$I_C = -1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-6	—	—	V	$I_E = -10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	-0.1	$\mu A$	$V_{CB} = -16 \text{ V}, I_E = 0$
Emitter cutoff current	$I_{EBO}$	—	—	-0.1	$\mu A$	$V_{EB} = -5 \text{ V}, I_C = 0$
DC current transfer ratio	$h_{FE}$	160	—	320		$V_{CE} = -2 \text{ V},$ $I_C = -0.1 \text{ A (Pulse test)}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	-0.15	-0.3	V	$I_C = -1 \text{ A},$ $I_B = -0.1 \text{ A (Pulse test)}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	-1.0	-1.2	V	$I_C = -1 \text{ A},$ $I_B = -0.1 \text{ A (Pulse test)}$
Gain bandwidth product	$f_T$	—	150	—	MHz	$V_{CE} = -2 \text{ V},$ $I_C = -10 \text{ mA}$
Collector output capacitance	$C_{ob}$	—	50	—	pF	$V_{CB} = -10 \text{ V}, I_E = 0,$ $f = 1 \text{ MHz}$

Main Characteristics





## Package Dimensions



## 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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