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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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2SB1002

Silicon PNP Epitaxial

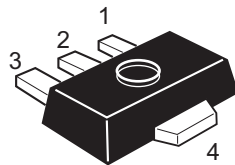
REJ03G0660-0200
 (Previous ADE-208-1035)
 Rev.2.00
 Aug.10.2005

Application

- Low frequency power amplifier
- Complementary pair with 2SD1368

Outline

RENESAS Package code: PLZZ0004CA-A
 (Package name: UPAK[®])



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}	-70	V
Collector to emitter voltage	V_{CEO}	-50	V
Emitter to base voltage	V_{EBO}	-6	V
Collector current	I_C	-1	A
Collector peak current	$i_{C(peak)}$ * ¹	-1.5	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 $\leq 20\%$

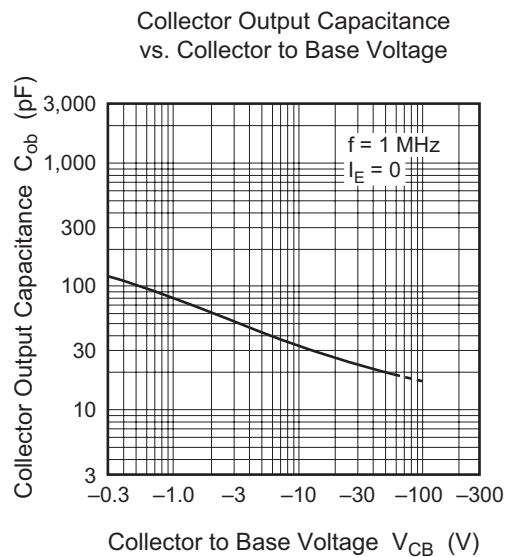
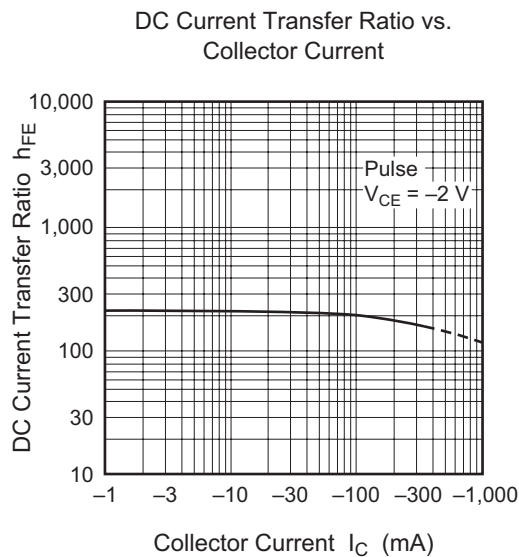
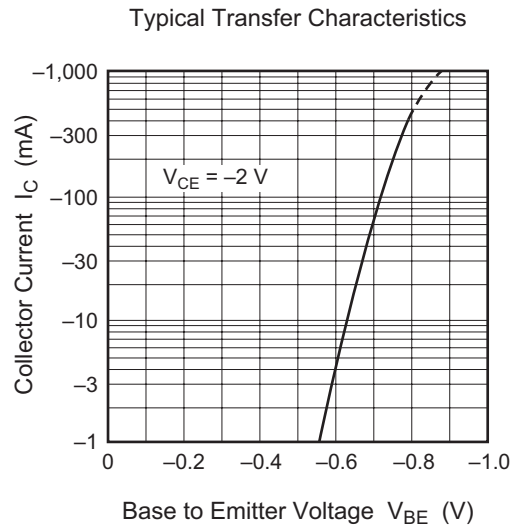
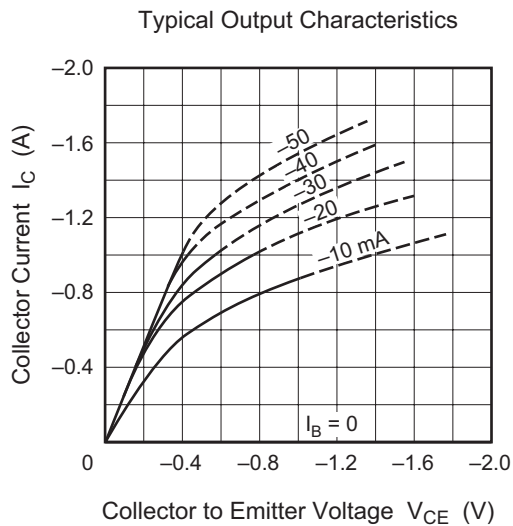
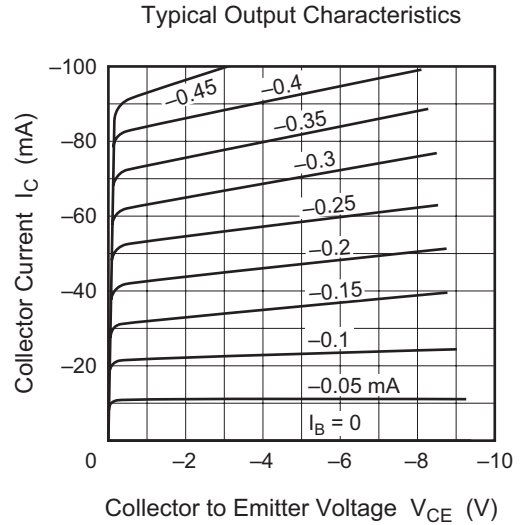
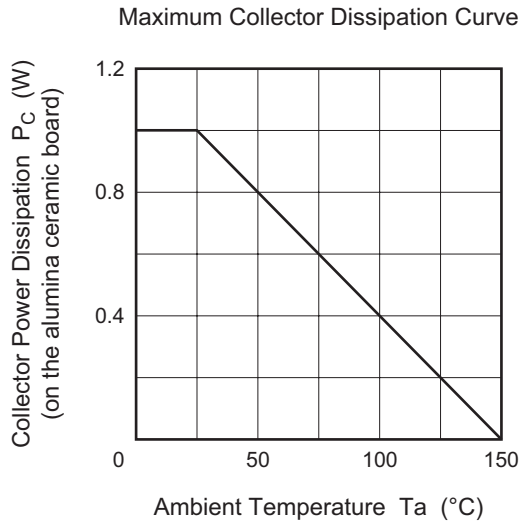
2. Value on the alumina ceramic board (12.5 × 20 × 0.7 mm)

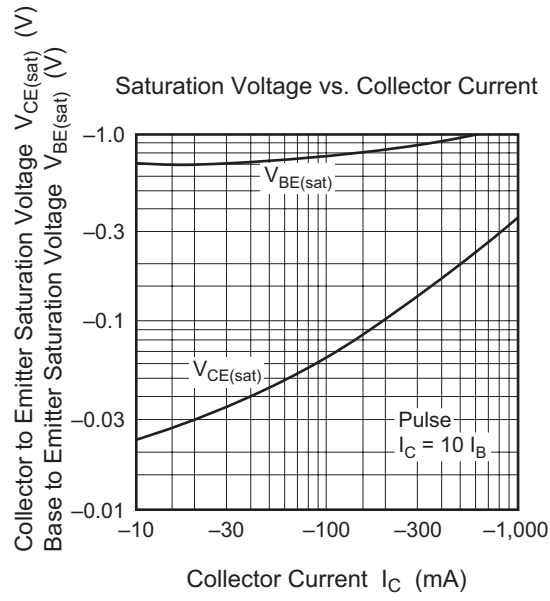
Electrical Characteristics

(Ta = 25°C)

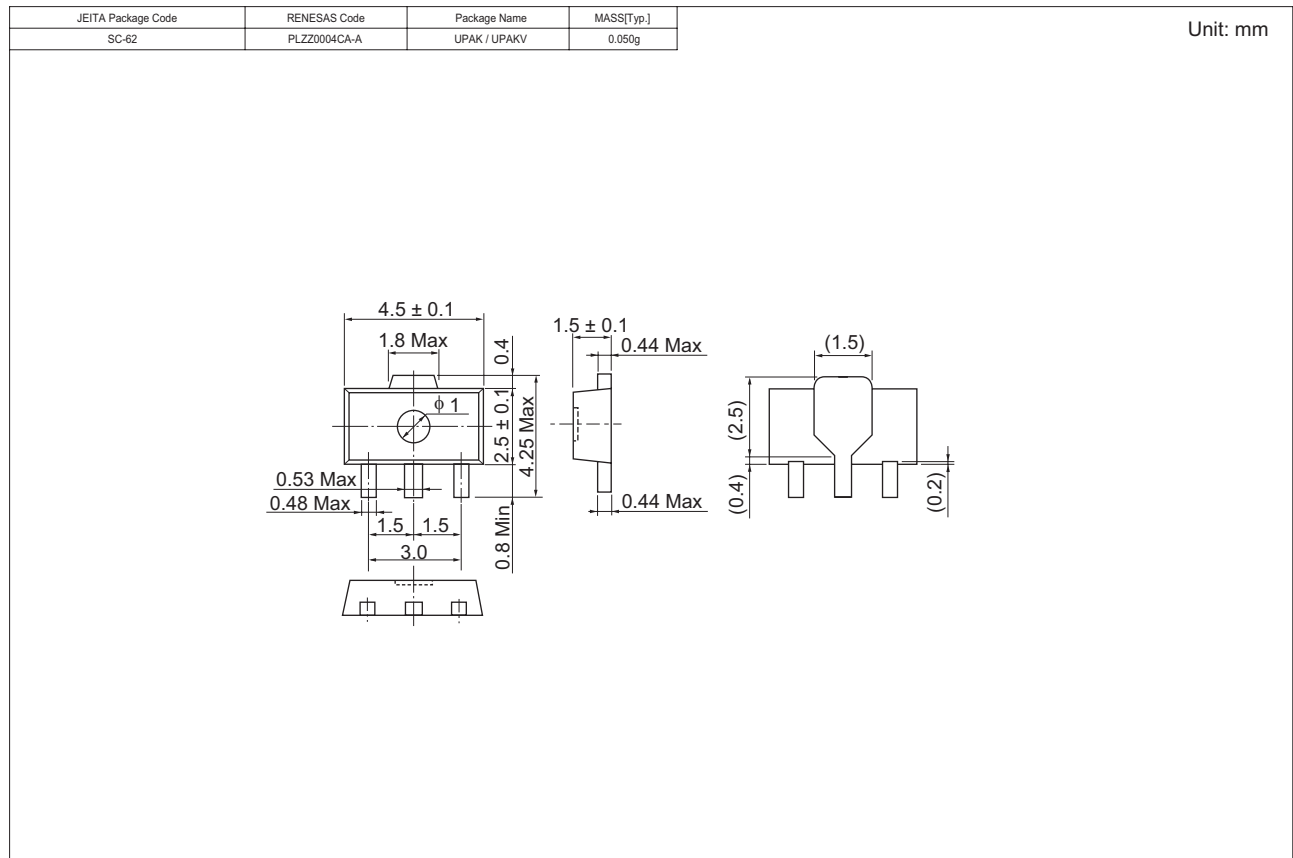
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-70	—	—	V	$I_C = -10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-50	—	—	V	$I_C = -1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-6	—	—	V	$I_E = -10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-0.1	μA	$V_{CB} = -50 \text{ V}, I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	-0.1	μA	$V_{EB} = -4 \text{ V}, I_C = 0$
DC current transfer ratio	h_{FE}	160	—	320		$V_{CE} = -2 \text{ V}, I_C = -0.1 \text{ A}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-0.6	V	$I_C = -1 \text{ A},$ $I_B = -0.1 \text{ A}$ (Pulse test)
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	-1.2	V	$I_C = -1 \text{ A},$ $I_B = -0.1 \text{ A}$ (Pulse test)
Gain bandwidth product	f_T	—	150	—	MHz	$V_{CE} = -2 \text{ V},$ $I_C = -10 \text{ mA}$ (Pulse test)
Collector output capacitance	C_{ob}	—	35	—	pF	$V_{CB} = -10 \text{ V}, I_E = 0,$ $f = 1 \text{ MHz}$

Main Characteristics





Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SB1002CJTL-E	1000	ϕ 178 mm Reel, 12 mm Emboss Taping

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