

2SD1368

Silicon NPN Epitaxial

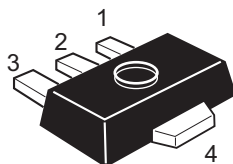
REJ03G0786-0200
(Previous ADE-208-1148)
Rev.2.00
Aug.10.2005

Application

- Low frequency power amplifier
- Complementary pair with 2SB1002

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}	100	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 x 20 x 0.7 mm)

Electrical Characteristics

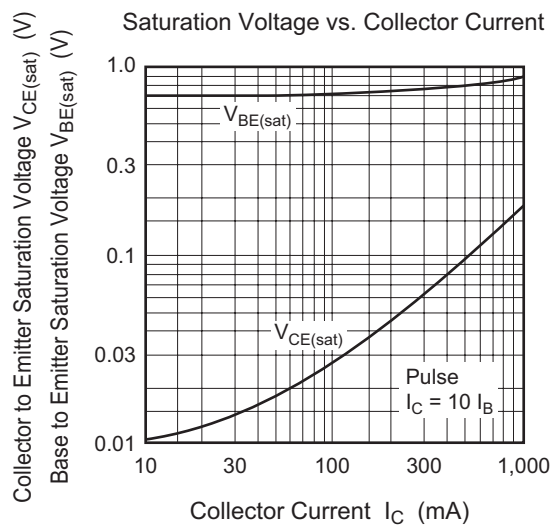
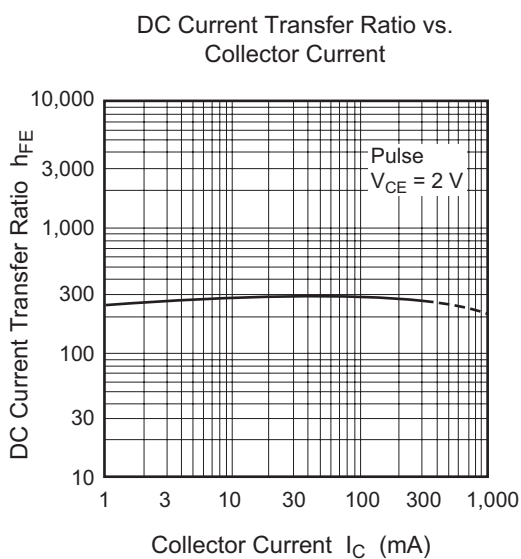
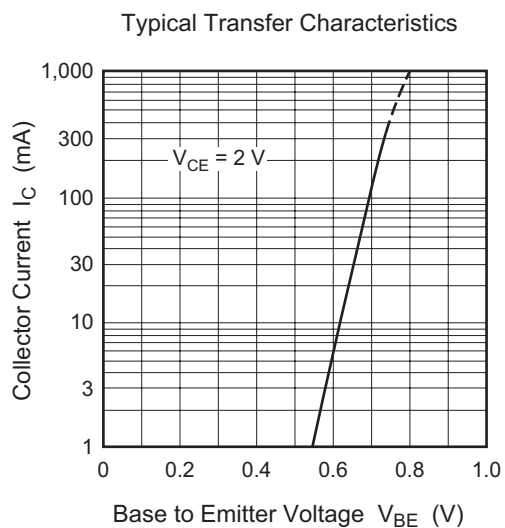
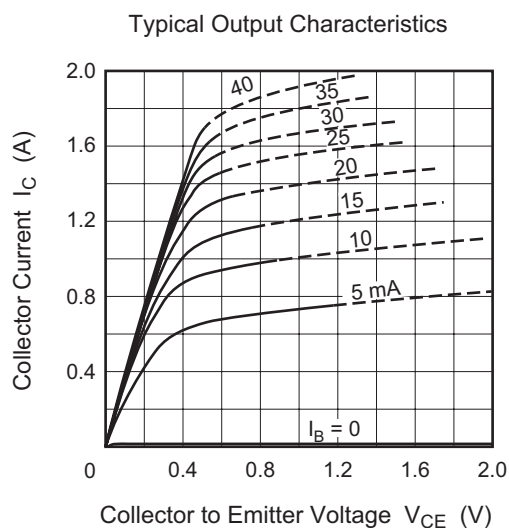
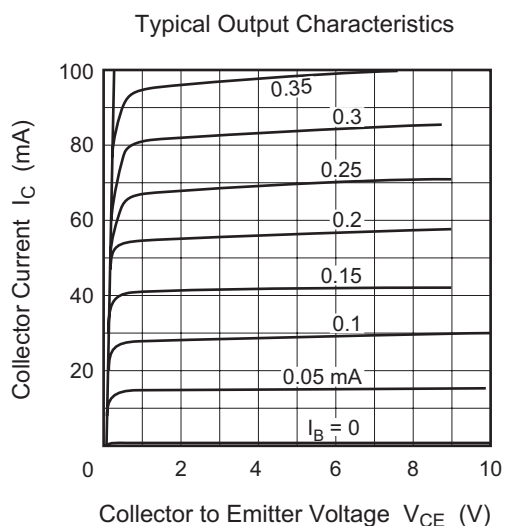
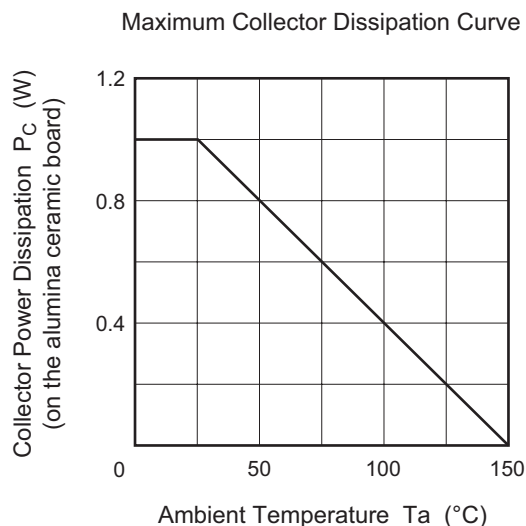
(Ta = 25°C)

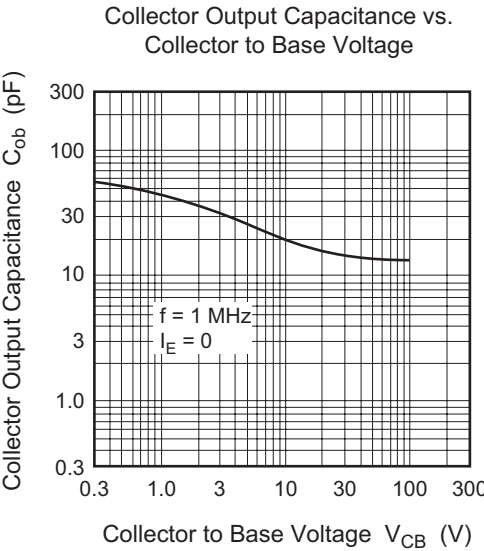
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	100	—	—	V	$I_C = 10\ \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	50	—	—	V	$I_C = 1\ mA, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	$I_E = 10\ \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	0.1	μA	$V_{CB} = 80\ V, I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	0.1	μA	$V_{EB} = 4\ V, I_C = 0$
DC current transfer ratio	h_{FE}^{*1}	160	—	500		$V_{CE} = 2\ V, I_C = 0.1\ A$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	$I_C = 1\ A, I_B = 0.1\ A, \text{Pulse}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.2	V	$I_C = 1\ A, I_B = 0.1\ A, \text{Pulse}$
Gain bandwidth product	f_T	—	100	—	MHz	$V_{CE} = 2\ V, I_C = 10\ mA, \text{Pulse}$
Collector output capacitance	C_{ob}	—	20	—	pF	$V_{CB} = 10\ V, I_E = 0, f = 1\ MHz$

Note: 1. The 2SD1368 is grouped by h_{FE} as follows.

Mark	CB	CC
h_{FE}	160 to 320	250 to 500

Main Characteristics





Package Dimensions

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

The drawing shows three views of the package:

- Top View:** Overall width is 4.5 ± 0.1 mm. The central circular feature has a diameter of $\phi 1$ mm. The distance from the center to the edge of the package is 1.8 Max mm. The package height is 0.4 mm. The distance from the center to the mounting pads is 2.5 ± 0.1 mm. The mounting pads have a width of 1.5 mm and a height of 0.53 Max mm. The distance between the mounting pads is 3.0 mm. The distance from the center to the mounting pads is 0.48 Max mm. The package has a minimum thickness of 0.8 Min mm. The distance from the center to the mounting pads is 4.25 Max mm.
- Side View:** The package height is 1.5 ± 0.1 mm. The distance from the center to the mounting pads is 0.44 Max mm. The mounting pads have a width of 0.44 Max mm.
- End View:** The package width is 1.5 mm. The distance from the center to the mounting pads is 2.5 mm. The mounting pads have a width of 0.4 mm and a height of 0.2 mm.

Ordering Information

Part Name	Quantity	Shipping Container
2SD1368CBTL-E 2SD1368CCTL-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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