

2SB1025

Silicon PNP Epitaxial

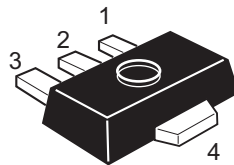
REJ03G0661-0200
(Previous ADE-208-1036)
Rev.2.00
Aug.10.2005

Application

- Low frequency power amplifier
- Complementary pair with 2SD1418

Outline

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



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}	-120	V
Collector to emitter voltage	V_{CEO}	-80	V
Emitter to base voltage	V_{EBO}	-5	V
Collector current	I_C	-1	A
Collector peak current	$i_{C(peak)}^{*1}$	-2	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 ($12.5 \times 20 \times 0.7$ mm)

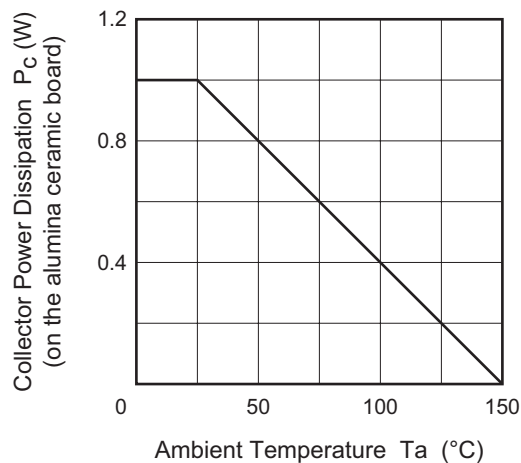
Electrical Characteristics

(Ta = 25°C)

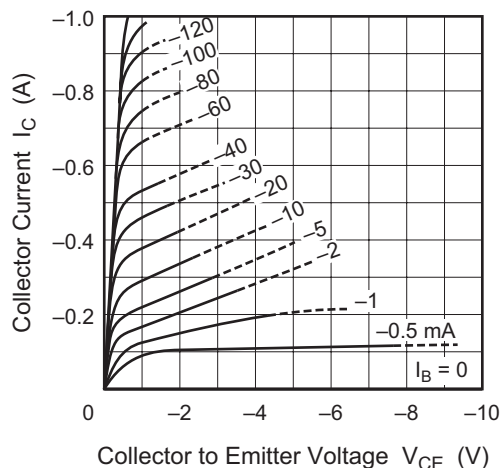
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-120	—	—	V	$I_C = -10\ \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-80	—	—	V	$I_C = -1\ mA, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	V	$I_E = -10\ \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-10	μA	$V_{CB} = -100\ V, I_E = 0$
DC current transfer ratio	h_{FE1}	100	—	200		$V_{CE} = -5\ V, I_C = -150\ mA$
	h_{FE2}	30	—	—		$V_{CE} = -5\ V,$ $I_C = -500\ mA$ (Pulse test)
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-1	V	$I_C = -500\ mA,$ $I_B = -50\ mA$ (Pulse test)
Base to emitter voltage	V_{BE}	—	—	-0.9	V	$V_{CE} = -5\ V, I_C = -150\ mA$
Gain bandwidth product	f_T	—	140	—	MHz	$V_{CE} = -5\ V, I_C = -150\ mA$
Collector output capacitance	C_{ob}	—	20	—	pF	$V_{CB} = -10\ V, I_E = 0,$ $f = 1\ MHz$

Main Characteristics

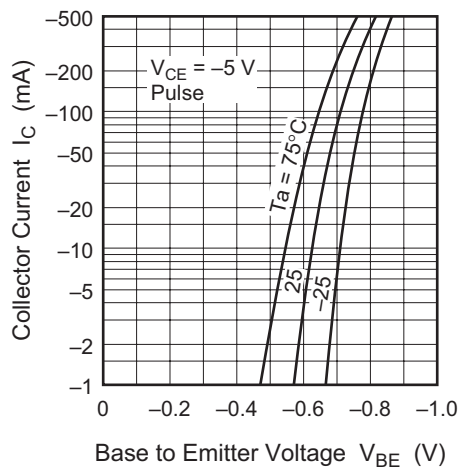
Maximum Collector Dissipation Curve



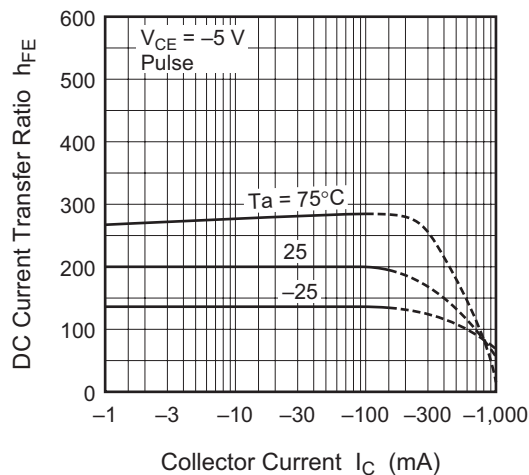
Typical Output Characteristics



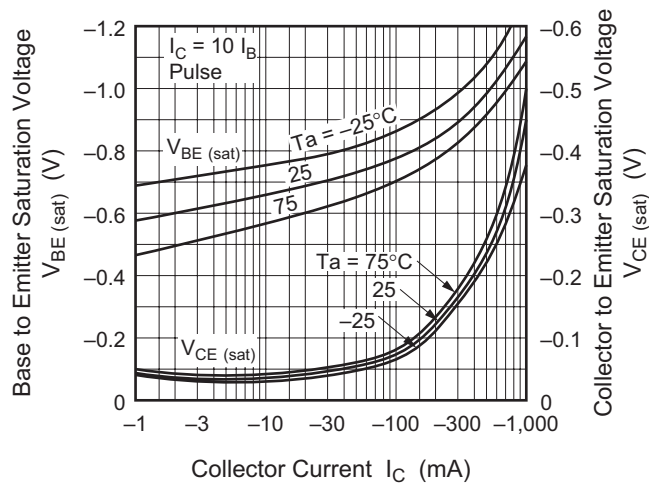
Typical Output Characteristics



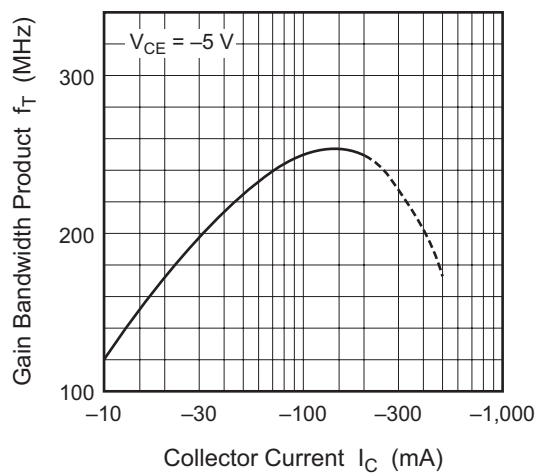
DC Current Transfer Ratio vs. Collector Current

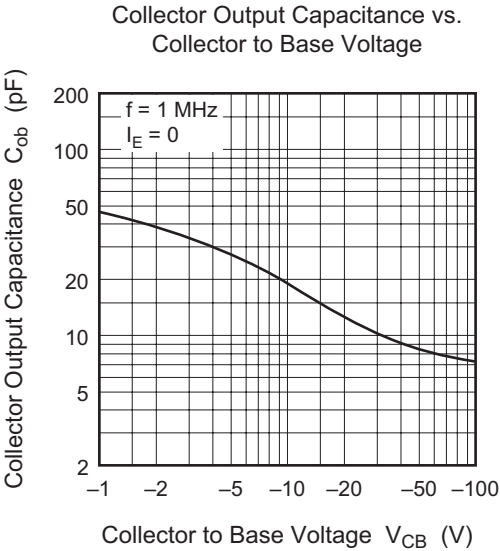


Saturation Voltage vs. Collector Current



Gain Bandwidth Product vs. Collector Current





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 top edge is 1.8 Max mm. The distance from the center to the bottom edge is 2.5 ± 0.1 mm. The distance from the center to the left edge is 0.53 Max mm. The distance from the center to the right edge is 0.48 Max mm. The distance between the two mounting tabs at the bottom is 3.0 mm. The distance from the center to the bottom edge of the mounting tabs is 1.5 mm. The distance from the center to the bottom edge of the package is 0.8 Min mm. The distance from the center to the bottom edge of the package is 4.25 Max mm.
- Side View:** The height of the package is 1.5 ± 0.1 mm. The distance from the top edge to the bottom edge is 0.44 Max mm. The distance from the bottom edge to the bottom edge of the package is 0.44 Max mm.
- End View:** The width of the package is 1.5 mm. The distance from the top edge to the bottom edge is 2.5 mm. The distance from the bottom edge to the bottom edge of the package is 0.4 mm. The distance from the bottom edge to the bottom edge of the package is 0.2 mm.

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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