

2SD1418

Silicon NPN Epitaxial

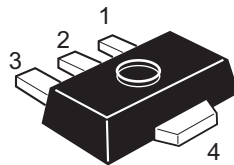
REJ03G0787-0200
(Previous ADE-208-1149)
Rev.2.00
Aug.10.2005

Application

- Low frequency power amplifier
- Complementary pair with 2SB1025

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 x 20 x 0.7 mm)

Electrical Characteristics

(Ta = 25°C)

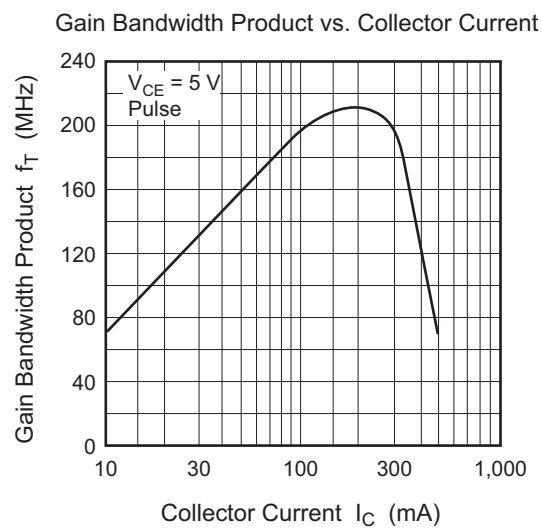
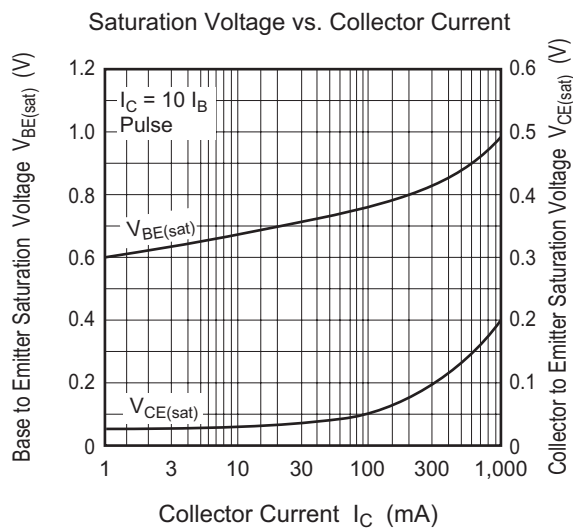
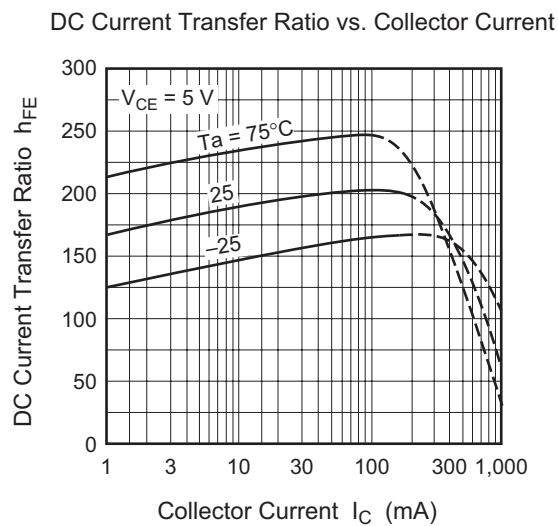
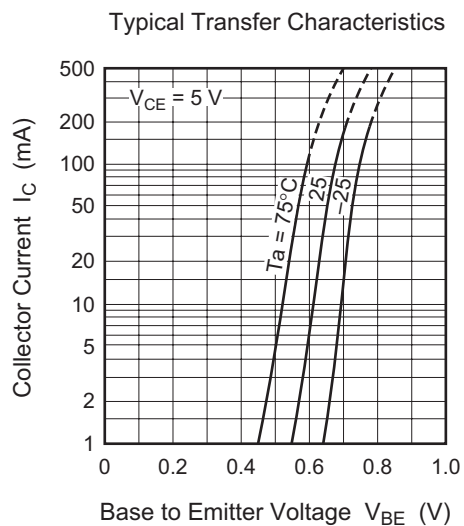
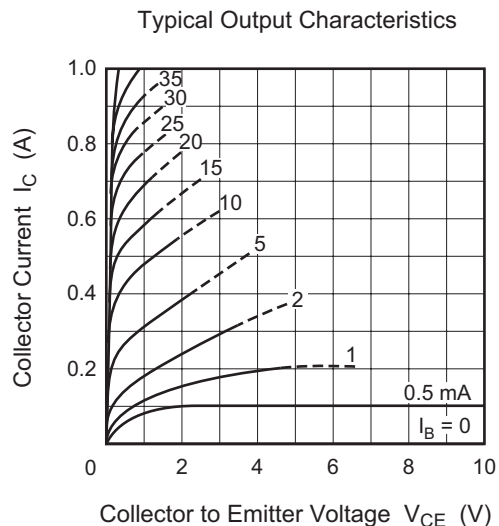
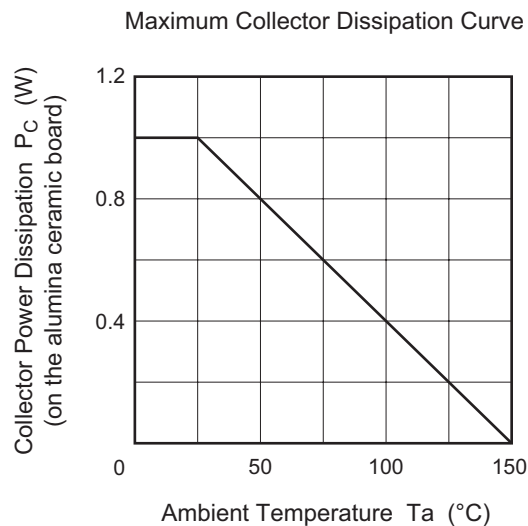
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	120	—	—	V	$I_C = 10\ \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	80	—	—	V	$I_C = 1\ mA, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 10\ \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 100\ V, I_E = 0$
DC current transfer ratio	h_{FE1}^{*1}	60	—	320		$V_{EB} = 5\ V, I_C = 150\ mA^{*2}$
	h_{FE2}	30	—	—		$V_{CE} = 5\ V, I_C = 500\ mA^{*2}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1	V	$I_C = 500\ mA, I_B = 50\ mA^{*2}$
Base to emitter voltage	V_{BE}	—	—	1.5	V	$V_{CE} = 5\ V, I_C = 150\ mA^{*2}$
Gain bandwidth product	f_T	—	140	—	MHz	$V_{CE} = 5\ V, I_C = 150\ mA^{*2}$
Collector output capacitance	C_{ob}	—	12	—	pF	$V_{CB} = 10\ V, I_E = 0, f = 1\ MHz$

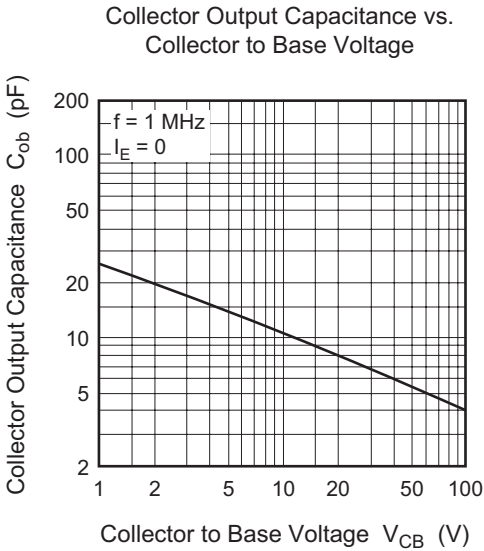
Notes: 1. The 2SD1418 is grouped by h_{FE1} as follows.

2. Pulse test

Mark	DA	DB	DC
h_{FE1}	60 to 120	100 to 200	160 to 320

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: a top view, a side view, and an end view. The top view shows a rectangular body with a central circular feature of diameter $\phi 1$. Dimensions include a total width of 4.5 ± 0.1 mm, a maximum width of 1.8 mm, a height of 0.4 mm, a maximum height of 2.5 ± 0.1 mm, a maximum height of 4.25 mm, a minimum height of 0.8 mm, and a maximum height of 0.53 mm. The side view shows a maximum width of 1.5 ± 0.1 mm, a maximum height of 0.44 mm, and a maximum height of 0.44 mm. The end view shows a maximum width of 1.5 mm, a maximum height of 2.5 mm, and a maximum height of 0.4 mm.

Ordering Information

Part Name	Quantity	Shipping Container
2SD1418DATR-E 2SD1418DBTR-E 2SD1418DCTR-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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