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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

Cautions

Keep safety first in your circuit designs!

1. Renesas Technology Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage.

Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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2SB1025

Silicon PNP Epitaxial

RENESAS

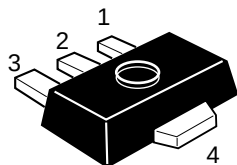
ADE-208-1036 (Z)
1st. Edition
Mar. 2001

Application

- Low frequency power amplifier
- Complementary pair with 2SD1418

Outline

UPAK



1. Base
2. Collector
3. Emitter
4. Collector (Flange)

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

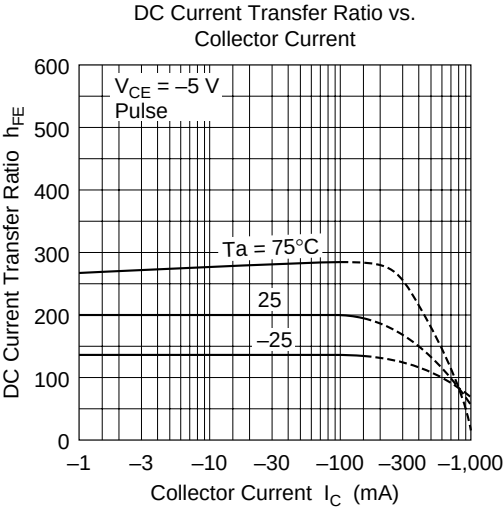
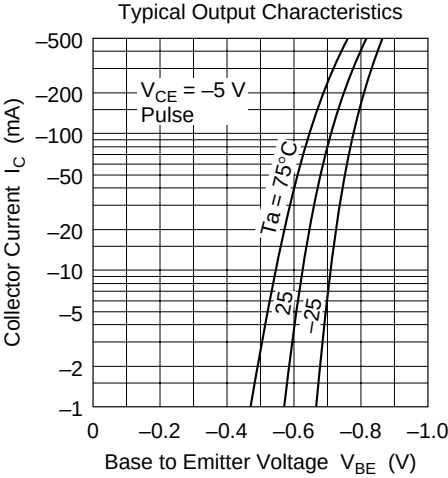
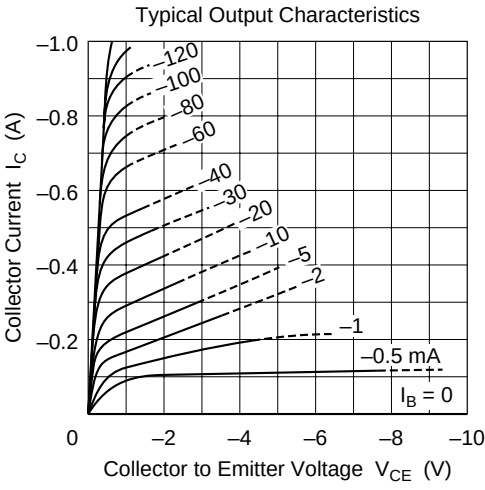
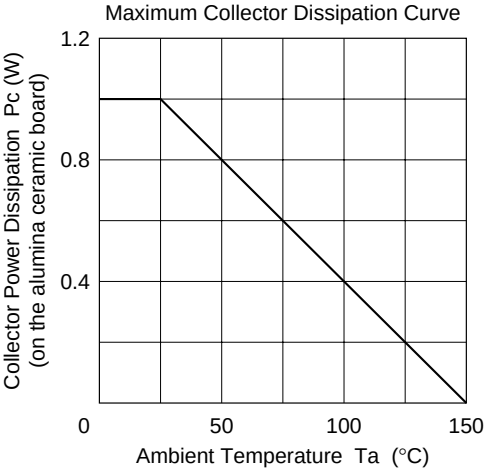
Notes: 1. PW ≤ 10 ms, Duty cycle ≤ 20%
2. Value on the alumina ceramic board (12.5 × 20 × 0.7 mm)

Electrical Characteristics (Ta = 25°C)

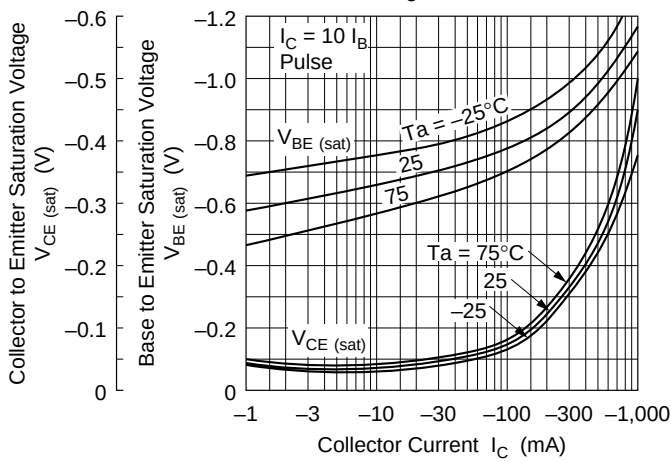
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	V _{(BR)CBO}	−120	—	—	V	I _C = −10 μA, I _E = 0
Collector to emitter breakdown voltage	V _{(BR)CEO}	−80	—	—	V	I _C = −1 mA, R _{BE} = ∞
Emitter to base breakdown voltage	V _{(BR)EBO}	−5	—	—	V	I _E = −10 μA, I _C = 0
Collector cutoff current	I _{CBO}	—	—	−10	μA	V _{CB} = −100 V, I _E = 0
DC current transfer ratio	h _{FE1} ^{*1}	60	—	320		V _{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	Cob	—	20	—	pF	V _{CB} = −10 V, I _E = 0, f = 1 MHz

Note: 1. The 2SB1025 is grouped by h_{FE1} as follows.

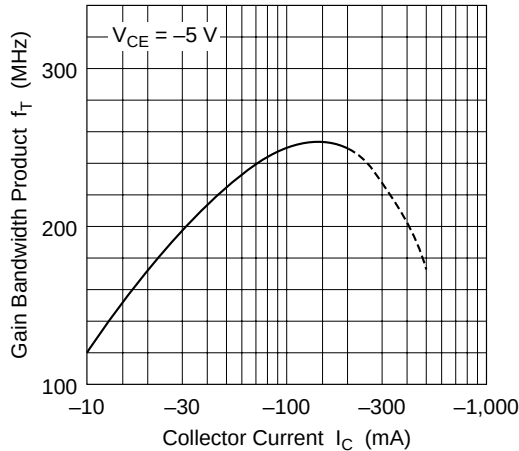
Mark	DH	DJ	DK
h _{FE1}	60 to 120	100 to 200	160 to 320



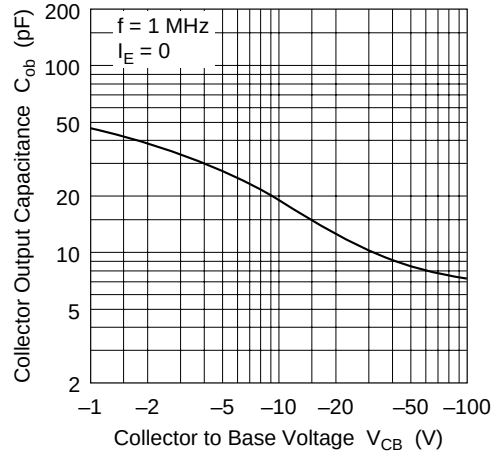
Saturation Voltage vs. Collector Current



Gain Bandwidth Product vs. Collector Current

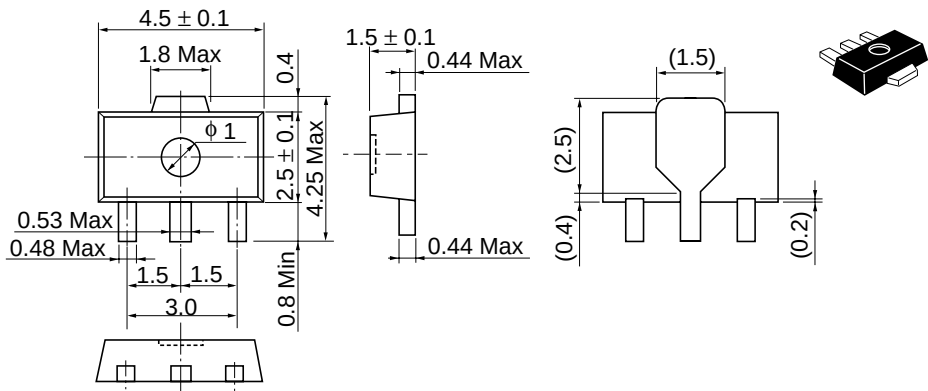


Collector Output Capacitance vs. Collector to Base Voltage



Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	UPAK
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.050 g

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