

To all our customers

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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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2SA1025, 2SA1081, 2SA1082

Silicon PNP Epitaxial

RENESAS

Application

- Low frequency amplifier
- Complementary pair with 2SC2396, 2SC2543 and 2SC2544

Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

2SA1025, 2SA1081, 2SA1082

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	2SA1025	2SA1081	2SA1082	Unit
Collector to base voltage	V _{CBO}	−60	−90	−120	V
Collector to emitter voltage	V _{CEO}	−60	−90	−120	V
Emitter to base voltage	V _{EBO}	−5	−5	−5	V
Collector current	I _C	−100	−100	−100	mA
Emitter current	I _E	100	100	100	mA
Collector power dissipation	P _C	400	400	400	mW
Junction temperature	T _j	150	150	150	°C
Storage temperature	T _{stg}	−55 to +150	−55 to +150	−55 to +150	°C

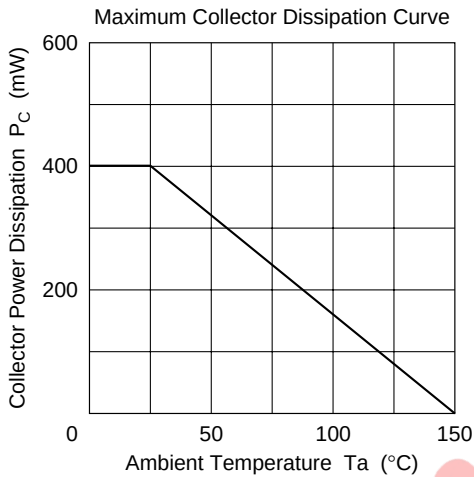
Electrical Characteristics (Ta = 25°C)

Item	Symbol	2SA1025			2SA1081			2SA1082			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	V _{(BR)CBO}	−60	—	—	−90	—	—	−120	—	—	V	I _C = −10 μA, I _E = 0
Collector to emitter breakdown voltage	V _{(BR)CEO}	−60	—	—	−90	—	—	−120	—	—	V	I _C = −1 mA, R _{BE} = ∞
Emitter to base breakdown voltage	V _{(BR)EBO}	−5	—	—	−5	—	—	−5	—	—	μA	I _E = −10 μA, I _C = 0
Collector cutoff current	I _{CBO}	—	—	−0.1	—	—	−0.1	—	—	−0.1	μA	V _{CB} = −50 V, I _E = 0
Emitter cutoff current	I _{EBO}	—	—	−0.1	—	—	−0.1	—	—	−0.1		V _{EB} = −2 V, I _C = 0
DC current transfer ratio	h _{FE} ^{*1}	250	—	800	250	—	800	250	—	800		V _{CE} = −12 V, I _C = −2 mA
Collector to emitter saturation voltage	V _{CE(sat)}	—	—	−0.2	—	—	−0.2	—	—	−0.2	V	I _C = −10 mA, I _B = −1 mA
Base to emitter voltage	V _{BE}	—	−0.6	—	—	−0.6	—	—	−0.6	—	V	V _{CE} = −12 V, I _C = −2 mA
Gain bandwidth product	f _T	—	90	—	—	90	—	—	90	—	MHz	V _{CE} = −12 V, I _C = −2 mA
Collector output capacitance	Cob	—	3.5	—	—	3.5	—	—	3.5	—	pF	V _{CB} = −10 V, I _E = 0, f = 1 MHz

Note: 1. The 2SA1025, 2SA1081 and 2SA1082 are grouped by h_{FE} as follows.

D	E
250 to 500	400 to 800

See characteristic curves of 2SA1083.



Not recommended
for new design

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