

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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2SC5081

Silicon NPN Epitaxial

RENESAS

ADE-208-1133A (Z)
2nd. Edition
Mar. 2001

Application

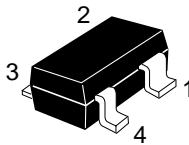
VHF / UHF wide band amplifier

Features

- High gain bandwidth product
 $f_T = 13.5$ GHz Typ
- High gain, low noise figure
PG = 18 dB Typ, NF = 1.1 dB Typ at $f = 900$ MHz

Outline

CMPAK-4



1. Collector
2. Emitter
3. Base
4. Emitter

Note: Marking is "ZD-".

Attention: This device is very sensitive to electro static discharge.

It is recommended to adopt appropriate cautions when handling this transistor.

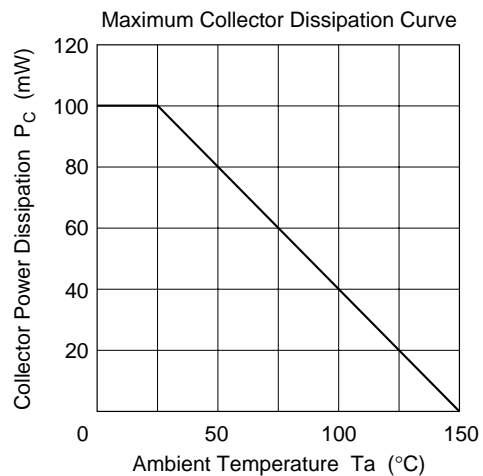
Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	15	V
Collector to emitter voltage	V_{CEO}	8	V
Emitter to base voltage	V_{EBO}	1.5	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	100	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Electrical Characteristics (Ta = 25°C)

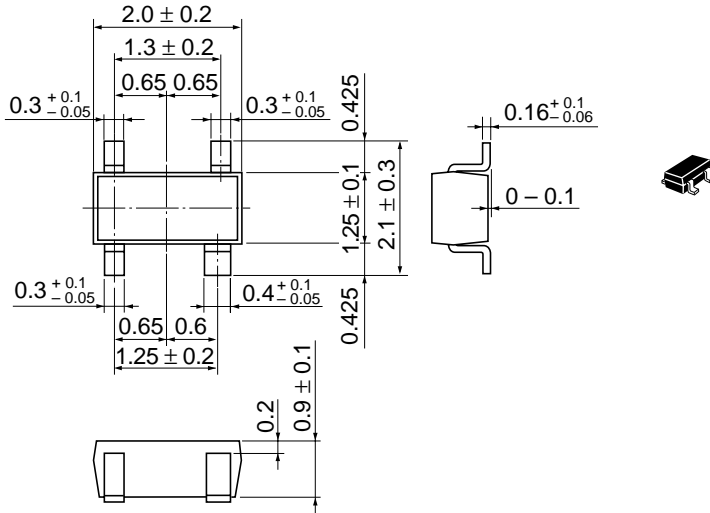
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	15	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector cutoff current	I_{CBO}	—	—	1	μA	$V_{CB} = 12 V, I_E = 0$
	I_{CEO}	—	—	1	mA	$V_{CE} = 8 V, R_{BE} =$
Emitter cutoff current	I_{EBO}	—	—	10	μA	$V_{EB} = 1.5 V, I_C = 0$
DC current transfer ratio	h_{FE}	50	90	160		$V_{CE} = 5 V, I_C = 20 mA$
Collector output capacitance	C_{ob}	—	0.4	0.75	pF	$V_{CB} = 5 V, I_E = 0, f = 1 MHz$
Gain bandwidth product	f_T	10.5	13.5	—	GHz	$V_{CE} = 5 V, I_C = 20 mA$
Power gain	PG	15	18	—	dB	$V_{CE} = 5 V, I_C = 20 mA, f = 900 MHz$
Noise figure	NF	—	1.1	2.0	dB	$V_{CE} = 5 V, I_C = 5 mA, f = 900 MHz$

See characteristic curves of 2SC5080.



Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	CMPAK-4(T)
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.006 g

Cautions

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