

2SC5081

Silicon NPN Epitaxial

REJ03G0743-0300
(Previous ADE-208-1133A)
Rev.3.00
Aug.10.2005

Application

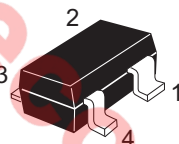
VHF / UHF wide band amplifier

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

RENESAS Package code: PTSP0004ZA-A
(Package name: 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

($T_a = 25^\circ\text{C}$)

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	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

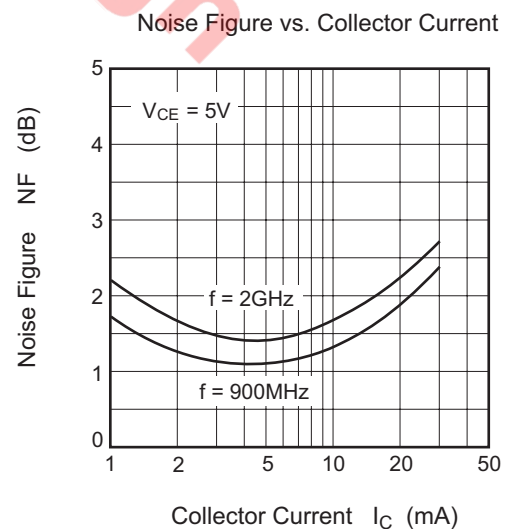
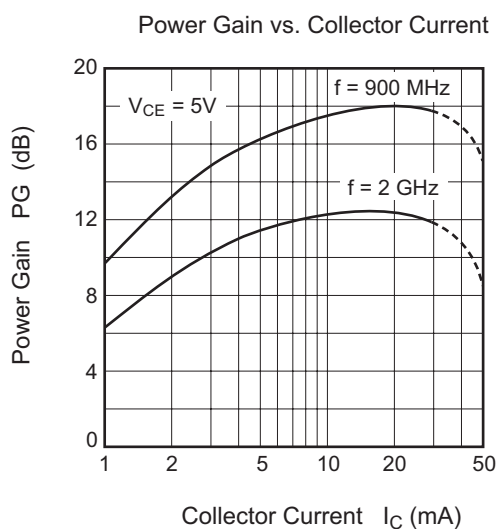
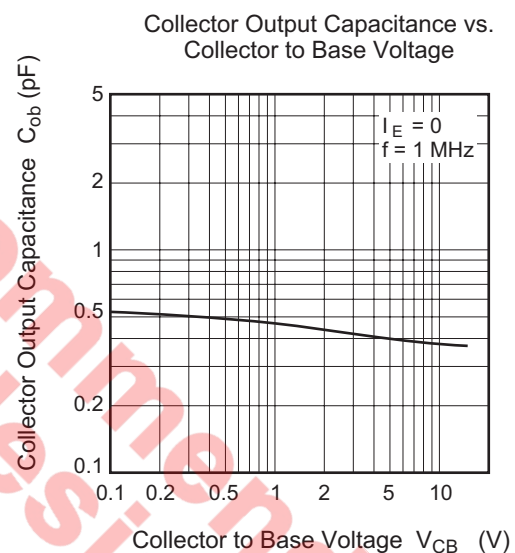
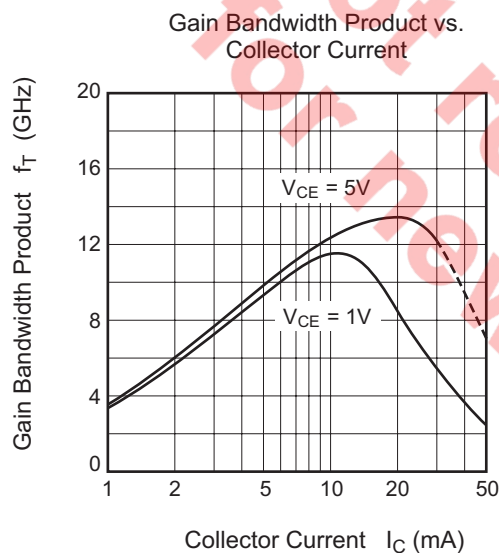
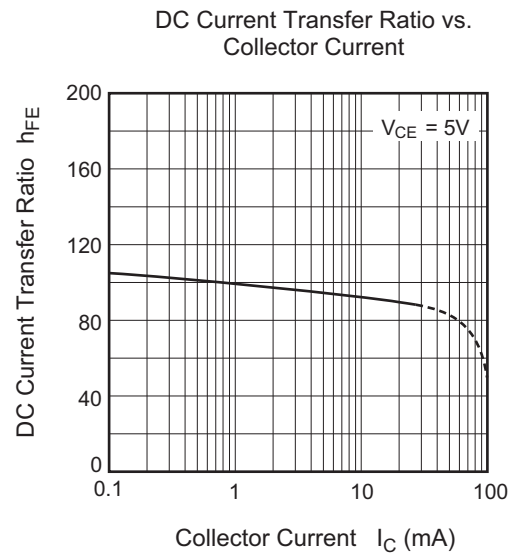
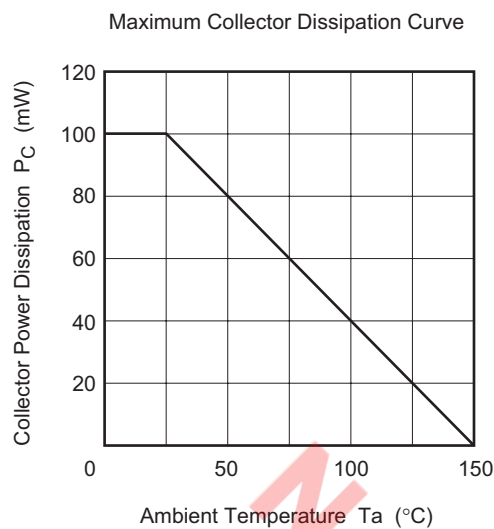
Electrical Characteristics

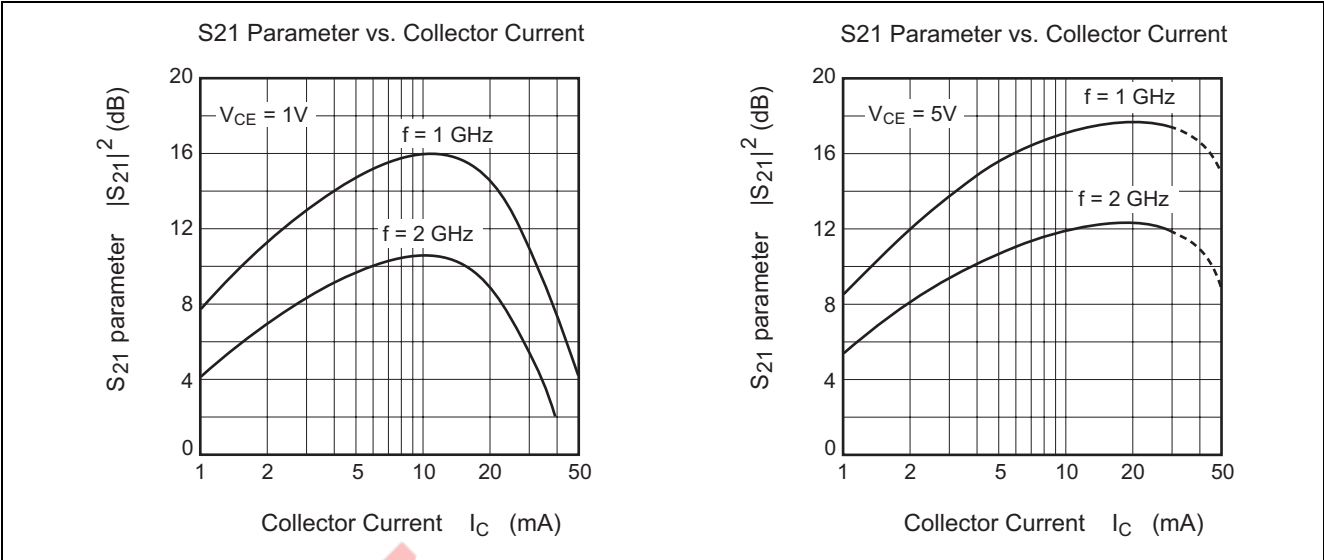
(Ta = 25°C)

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	$V_{CE} = 8\ V, R_{BE} = \infty$
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	$V_{CE} = 5\ V, I_C = 5\ mA,$ $f = 900\ MHz$

Not recommend
for new design

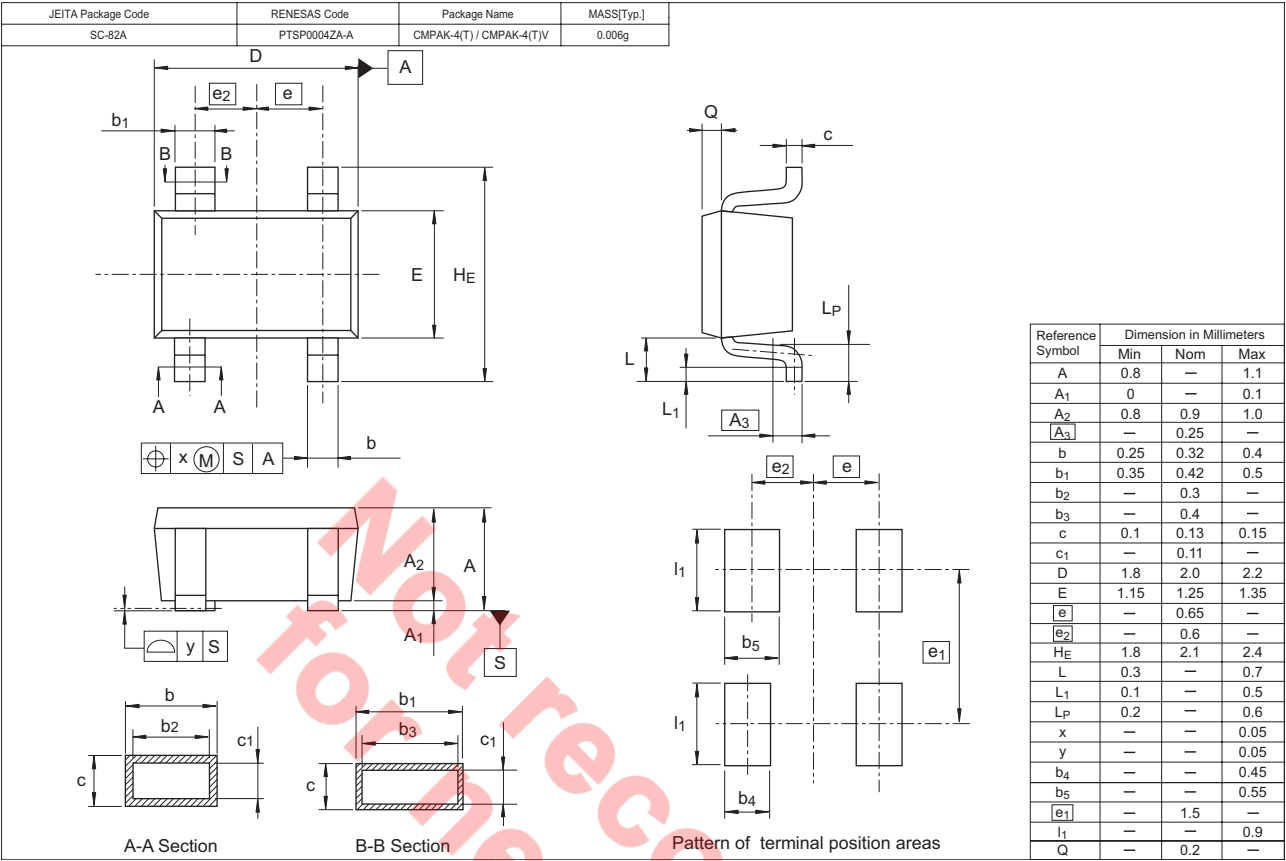
Main Characteristics





Not recommend
for new design

Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SC5081ZD-TL-E	3000	φ 178 mm Reel, 8 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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