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# 2SC5081

Silicon NPN Epitaxial

# HITACHI

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## Application

VHF / UHF wide band amplifier

## Features

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

## Outline

CMPAK-4



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

## 2SC5081

### 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)

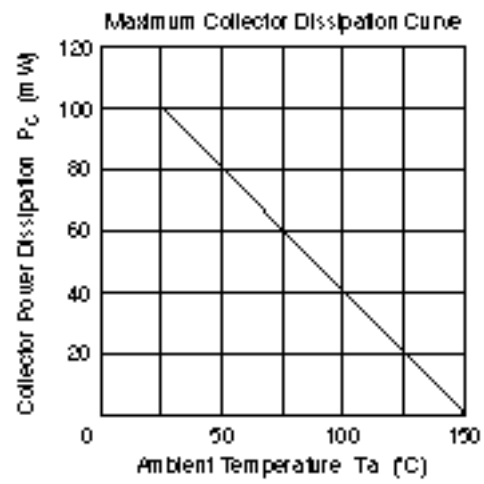
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	15	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector cutoff current	$I_{CBO}$	—	—	1	$\mu A$	$V_{CB} = 12 V, I_E = 0$
	$I_{CEO}$	—	—	1	mA	$V_{CE} = 8 V, R_{BE} =$
Emitter cutoff current	$I_{EBO}$	—	—	10	$\mu A$	$V_{EB} = 1.5 V, I_C = 0$
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	$V_{CE} = 5 V, I_C = 5 mA, f = 900 MHz$

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.

See characteristic curves of 2SC5080.



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# HITACHI

## **Hitachi, Ltd.**

Semiconductor & IC Div.

Nippon Bldg., 2-6-2, Ohite-machi, Chiyoda-ku, Tokyo 100, Japan

Tel: Tokyo (03) 3270-2111

Fax: (03) 3270-5109

For further information write to:

**Hitachi America, Ltd.**

Semiconductor & IC Div.

2000 Sierra Point Parkway

Brisbane, CA 94005-4835

U.S.A.

Tel: 415-589-8000

Fax: 415-589-4207

**Hitachi Europe GmbH**

Electronic Components Group

Continental Europe

Danrecher Straße 3

D-85622 Feldkirchen

München

Tel: 089-9 94 80-0

Fax: 089-9 29 30 00

**Hitachi Europe Ltd.**

Electronic Components Div.

Northern Europe Headquarters

Whitebrook Park

Lower Cookham Road

Maidenhead

Berkshire SL6 8YA

United Kingdom

Tel: 0628-585000

Fax: 0628-778322

**Hitachi Asia Pte. Ltd.**

45 Collyer Quay #20-00

Hitachi Tower

Singapore 0104

Tel: 535-2100

Fax: 535-1533

**Hitachi Asia (Hong Kong) Ltd.**

Unit 705, North Tower,

World Finance Centre

Harbour City, Canton Road

Tsim Sha Tsui, Kowloon

Hong Kong

Tel: 27359218

Fax: 27306074