

---

# 2SC5079

Silicon NPN Epitaxial

# HITACHI

ADE-208-222  
1st. Edition

---

## Application

VHF / UHF wide band amplifier

## Features

- High gain bandwidth product  
 $f_T = 12 \text{ GHz Typ}$
- High gain, low noise figure  
 $PG = 17 \text{ dB Typ}$ ,  $NF = 1.6 \text{ dB Typ}$  at  $f = 900 \text{ MHz}$

## Outline

CMPAK-4



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

---

## 2SC5079

---

### 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	$I_C$	20	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)

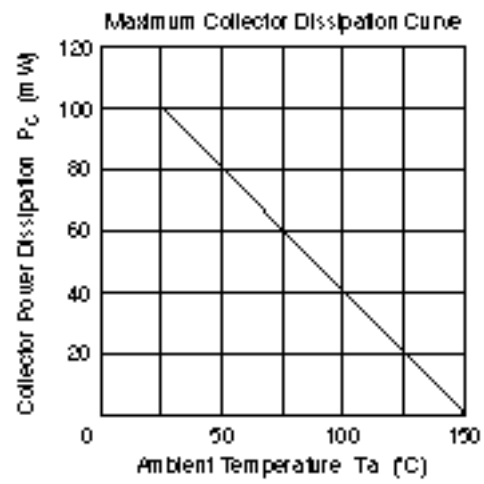
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector cutoff current	$I_{CBO}$	—	—	10	μA	$V_{CB} = 15\text{ V}$ , $I_E = 0$
	$I_{CEO}$	—	—	1	mA	$V_{CE} = 8\text{ V}$ , $R_{BE} =$
Emitter cutoff current	$I_{EBO}$	—	—	10	μA	$V_{EB} = 1.5\text{ V}$ , $I_C = 0$
DC current transfer ratio	$h_{FE}$	50	120	160		$V_{CE} = 5\text{ V}$ , $I_C = 10\text{ mA}$
Collector output capacitance	$C_{ob}$	—	0.3	0.8	pF	$V_{CB} = 5\text{ V}$ , $I_E = 0$ , $f = 1\text{ MHz}$
Gain bandwidth product	$f_T$	9	12	—	GHz	$V_{CE} = 5\text{ V}$ , $I_C = 5\text{ mA}$
Power gain	PG	14	17	20	dB	$V_{CE} = 5\text{ V}$ , $I_C = 10\text{ mA}$ , $f = 900\text{ MHz}$
Noise figure	NF	—	1.6	2.5	dB	$V_{CE} = 5\text{ V}$ , $I_C = 5\text{ mA}$ , $f = 900\text{ MHz}$

Note: Marking is "ZC-".

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 2SC5078.



When using this document, keep the following in mind:

1. This document may, wholly or partially, be subject to change without notice.
2. All rights are reserved: No one is permitted to reproduce or duplicate, in any form, the whole or part of this document without Hitachi's permission.
3. Hitachi will not be held responsible for any damage to the user that may result from accidents or any other reasons during operation of the user's unit according to this document.
4. Circuitry and other examples described herein are meant merely to indicate the characteristics and performance of Hitachi's semiconductor products. Hitachi assumes no responsibility for any intellectual property claims or other problems that may result from applications based on the examples described herein.
5. No license is granted by implication or otherwise under any patents or other rights of any third party or Hitachi, Ltd.
6. **MEDICAL APPLICATIONS:** Hitachi's products are not authorized for use in **MEDICAL APPLICATIONS** without the written consent of the appropriate officer of Hitachi's sales company. Such use includes, but is not limited to, use in life support systems. Buyers of Hitachi's products are requested to notify the relevant Hitachi sales offices when planning to use the products in **MEDICAL APPLICATIONS**.

---

---

# 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

Dornacher 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

**HITACHI**