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# 2SC5025

Silicon NPN Epitaxial

# HITACHI

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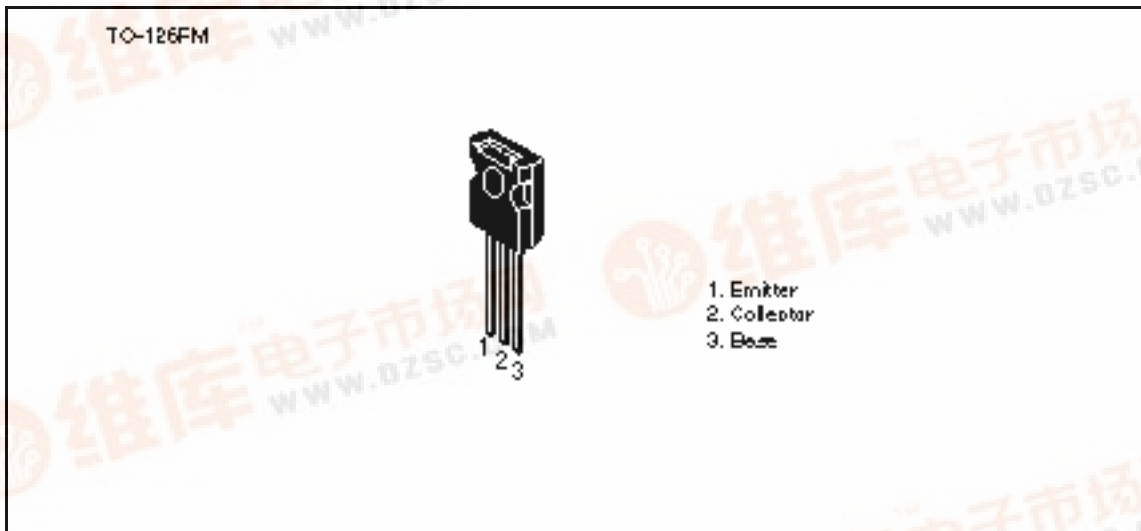
## Application

High frequency amplifier

## Features

- Excellent high frequency characteristics  $f_T = 1.2 \text{ GHz typ}$
- Low output capacitance  $C_{ob} = 5.0 \text{ pF typ}$

## Outline



## 2SC5025

### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	30	V
Collector to emitter voltage	$V_{CEO}$	20	V
Emitter to base voltage	$V_{EBO}$	3.5	V
Collector current	$I_C$	0.3	A
Collector peak current	$I_{C(peak)}$	0.5	A
Collector power dissipation	$P_C$	1	W
	$P_C^{*1}$	5	
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	−55 to +150	°C

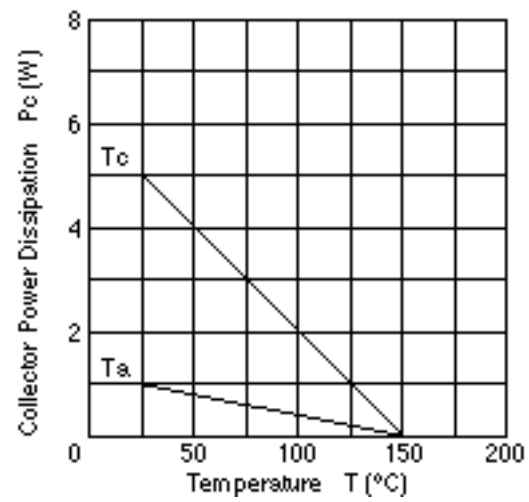
Note: 1. Value at  $T_C = 25^\circ\text{C}$ .

### Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	20	—	—	V	$I_C = 10\text{ mA}$ , $R_{BE} =$
Collector cutoff current	$I_{CBO}$	—	—	1.0	mA	$V_{CB} = 25\text{ V}$ , $I_E = 0$
Emitter cutoff current	$I_{EBO}$	—	—	1.0	mA	$V_{EB} = 3\text{ V}$ , $I_C = 0$
DC current transfer ratio	$h_{FE}$	40	—	200		$V_{CE} = 5\text{ V}$ , $I_C = 50\text{ mA}$
Base to emitter voltage	$V_{BE}$	—	—	1.2	V	$V_{CE} = 5\text{ V}$ , $I_C = 300\text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	2.0	V	$I_C = 300\text{ mA}$ , $I_B = 60\text{ mA}$
Gain bandwidth product	$f_T$	—	1.2	—	GHz	$V_{CE} = 5\text{ V}$ , $I_C = 100\text{ mA}$
Collector output capacitance	$C_{ob}$	—	5.0	—	pF	$V_{CB} = 10\text{ V}$ , $I_E = 0$ , $f = 1\text{ MHz}$
Input capacitance	$C_{ib}$	—	10	—	pF	$V_{EB} = 2\text{ V}$ , $I_C = 0$ , $f = 1\text{ MHz}$

See characteristic curves of 2SC3652.

Maximum Collector Power Dissipation Curve



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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: 415-589-8300

Fax: 415-583-4207

**Hitachi Europe GmbH**

Electronic Components Group

Continental Europe

Danewer 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

Whitbrook Park

Lower Cookham Road

M 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: 27352218

Fax: 27308074