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# 2SB1025

Silicon PNP Epitaxial

# HITACHI

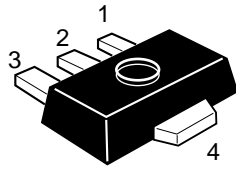
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## Application

- Low frequency power amplifier
- Complementary pair with 2SD1418

## Outline

UPAK



1. Base
2. Collector
3. Emitter
4. Collector (Flange)

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

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-120	V
Collector to emitter voltage	$V_{CEO}$	-80	V
Emitter to base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-1	A
Collector peak current	$i_{C(peak)}^{*1}$	-2	A
Collector power dissipation	$P_C^{*2}$	1	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

Notes: 1.  $PW \leq 10$  ms, Duty cycle  $\leq 20\%$

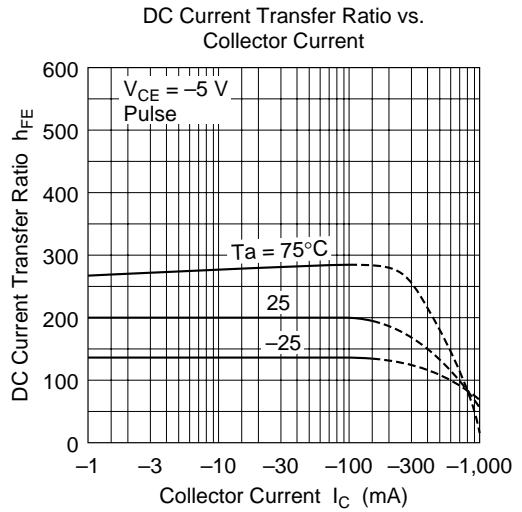
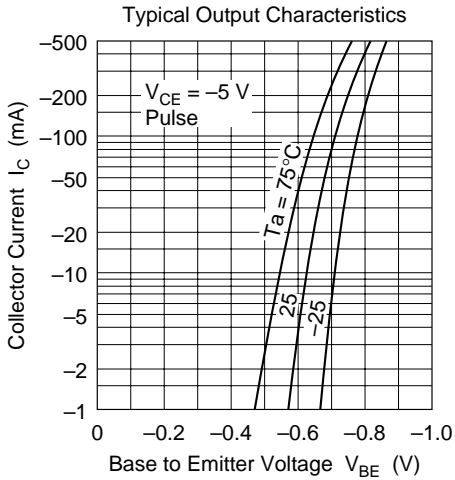
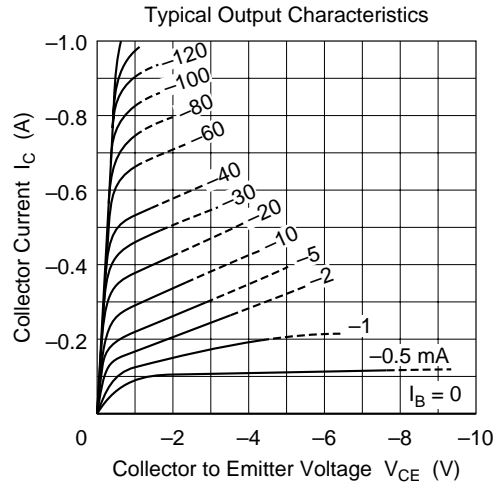
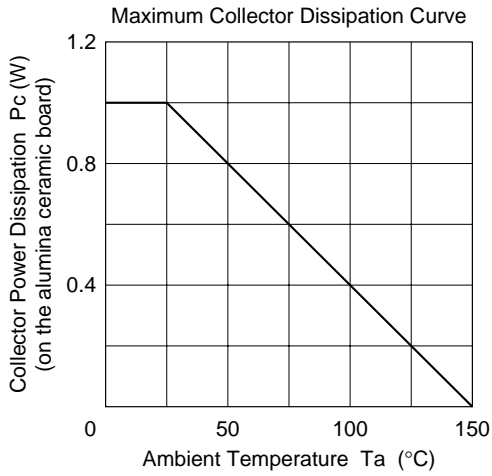
2. Value on the alumina ceramic board (12.5 × 20 × 0.7 mm)

## Electrical Characteristics (Ta = 25°C)

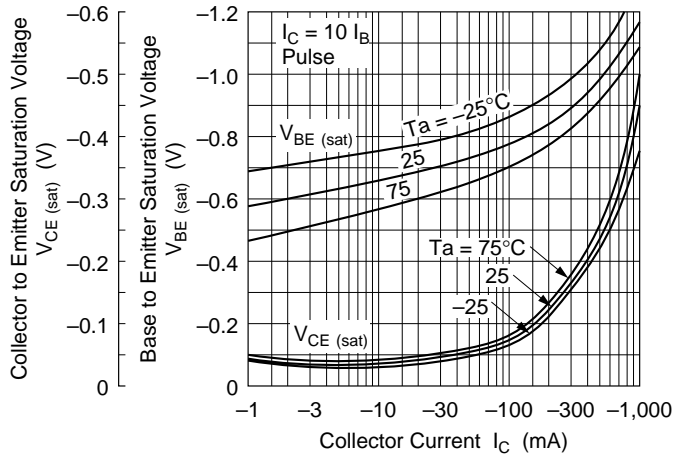
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-120	—	—	V	$I_C = -10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-80	—	—	V	$I_C = -1$ mA, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	V	$I_E = -10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	-10	$\mu A$	$V_{CB} = -100$ V, $I_E = 0$
DC current transfer ratio	$h_{FE1}^{*1}$	60	—	320		$V_{CE} = -5$ V, $I_C = -150$ mA
	$h_{FE2}$	30	—	—		$V_{CE} = -5$ V, $I_C = -500$ mA (Pulse test)
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-1	V	$I_C = -500$ mA, $I_B = -50$ mA (Pulse test)
Base to emitter voltage	$V_{BE}$	—	—	-0.9	V	$V_{CE} = -5$ V, $I_C = -150$ mA
Gain bandwidth product	$f_T$	—	140	—	MHz	$V_{CE} = -5$ V, $I_C = -150$ mA
Collector output capacitance	$C_{ob}$	—	20	—	pF	$V_{CB} = -10$ V, $I_E = 0$ , $f = 1$ MHz

Note: 1. The 2SB1025 is grouped by  $h_{FE1}$  as follows.

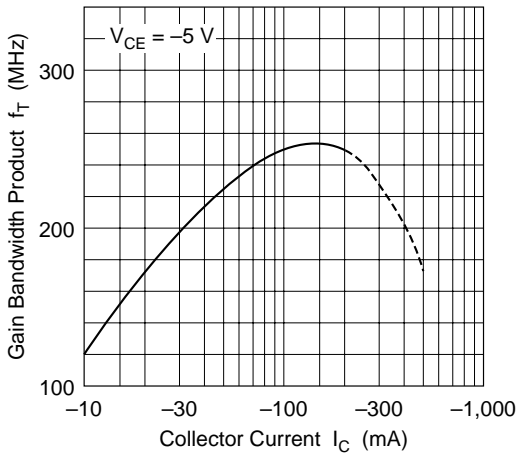
Mark	DH	DJ	DK
$h_{FE1}$	60 to 120	100 to 200	160 to 320



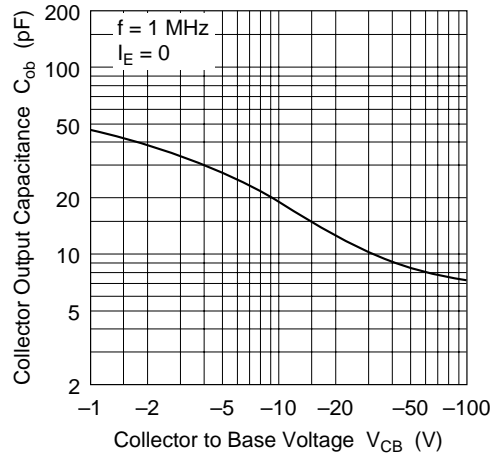
Saturation Voltage vs. Collector Current



Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage





Hitachi Code	UPAK
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.050 g

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## Hitachi, Ltd.

Semiconductor & Integrated Circuits.  
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan  
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

URL      North America      : <http://semiconductor.hitachi.com/>  
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## For further information write to:

Hitachi Semiconductor  
(America) Inc.  
179 East Tasman Drive,  
San Jose, CA 95134  
Tel: <1> (408) 433-1990  
Fax: <1>(408) 433-0223

Hitachi Europe GmbH  
Electronic components Group  
Dornacher Straße 3  
D-85622 Feldkirchen, Munich  
Germany  
Tel: <49> (89) 9 9180-0  
Fax: <49> (89) 9 29 30 00

Hitachi Europe Ltd.  
Electronic Components Group.  
Whitebrook Park  
Lower Cookham Road  
Maidenhead  
Berkshire SL6 8YA, United Kingdom  
Tel: <44> (1628) 585000  
Fax: <44> (1628) 778322

Hitachi Asia Pte. Ltd.  
16 Collyer Quay #20-00  
Hitachi Tower  
Singapore 049318  
Tel: 535-2100  
Fax: 535-1533

Hitachi Asia Ltd.  
Taipei Branch Office  
3F, Hung Kuo Building, No.167,  
Tun-Hwa North Road, Taipei (105)  
Tel: <886> (2) 2718-3666  
Fax: <886> (2) 2718-8180

Hitachi Asia (Hong Kong) Ltd.  
Group III (Electronic Components)  
7/F., North Tower, World Finance Centre,  
Harbour City, Canton Road, Tsim Sha Tsui,  
Kowloon, Hong Kong  
Tel: <852> (2) 735 9218  
Fax: <852> (2) 730 0281  
Telex: 40815 HITEC HX

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