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# 2SD1366

Silicon NPN Epitaxial

# HITACHI

ADE-208-1145 (Z)

1st. Edition

Mar. 2001

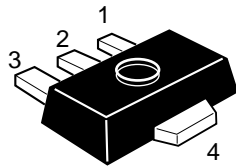
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## Application

Low frequency power amplifier

## 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 <sub>CBO</sub>	25	V
Collector to emitter voltage	V <sub>CEO</sub>	20	V
Emitter to base voltage	V <sub>EBO</sub>	5	V
Collector current	I <sub>C</sub>	1	A
Collector peak current	i <sub>C(peak)</sub> <sup>*1</sup>	1.5	A
Collector power dissipation	P <sub>C</sub> <sup>*2</sup>	1	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	−55 to +150	°C

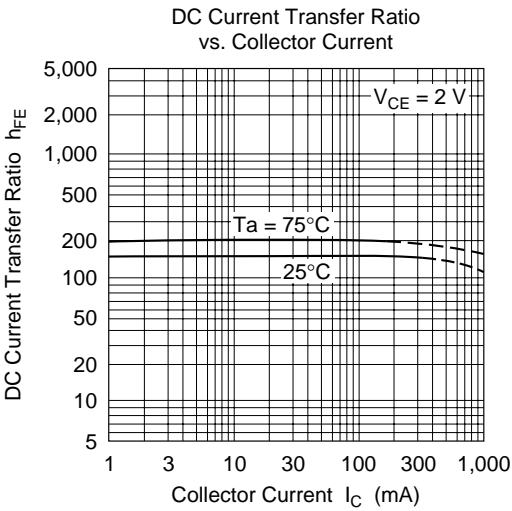
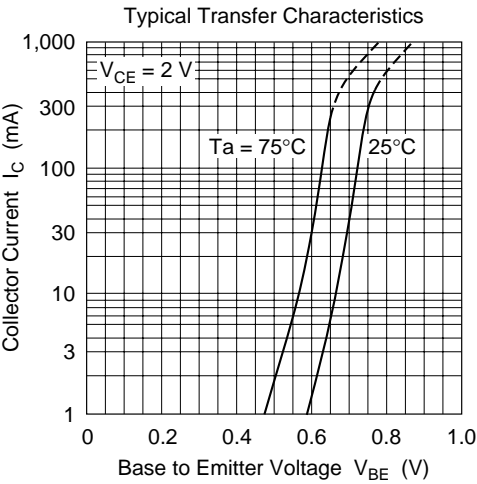
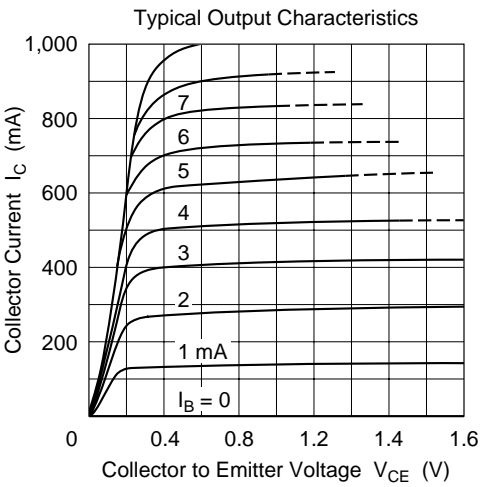
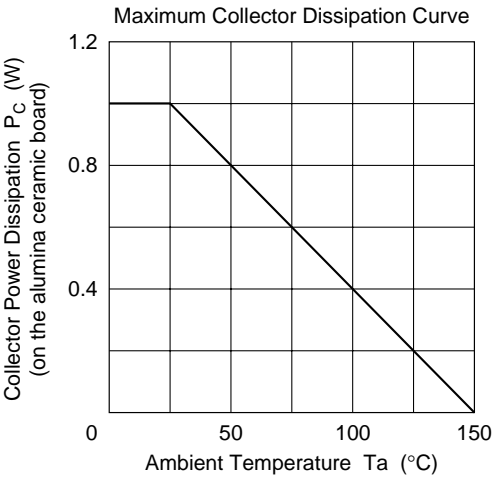
Notes: 1. PW ≤ 10 ms, Duty cycle ≤ 20%.  
2. Value on the alumina ceramic board (12.5 × 20 × 0.7 mm)

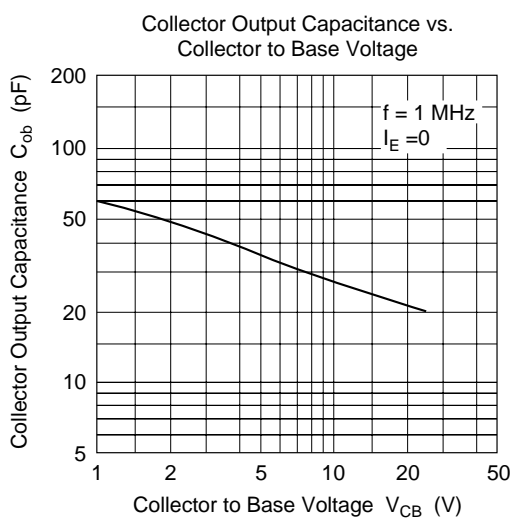
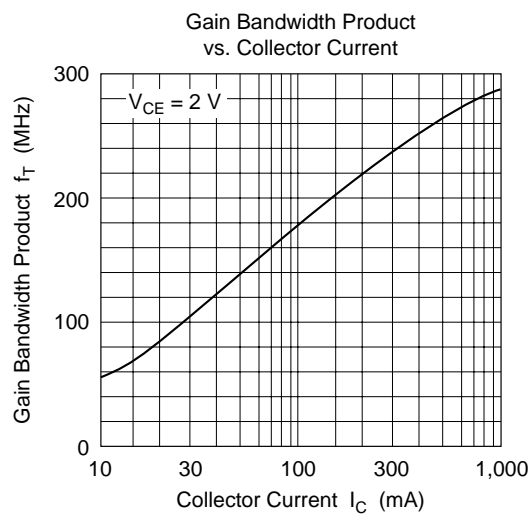
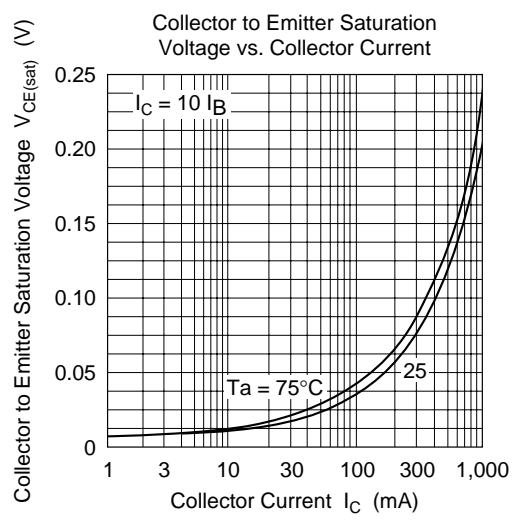
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	V <sub>(BR)CBO</sub>	25	—	—	V	I <sub>C</sub> = 10 μA, I <sub>E</sub> = 0
Collector to emitter breakdown voltage	V <sub>(BR)CEO</sub>	20	—	—	V	I <sub>C</sub> = 1 mA, R <sub>BE</sub> = ∞
Emitter to base breakdown voltage	V <sub>(BR)EBO</sub>	5	—	—	V	I <sub>E</sub> = 10 μA, I <sub>C</sub> = 0
Collector cutoff current	I <sub>CBO</sub>	—	—	0.1	μA	V <sub>CB</sub> = 20 V, I <sub>E</sub> = 0
Emitter cutoff current	I <sub>EBO</sub>	—	—	0.1	μA	V <sub>EB</sub> = 4 V, I <sub>C</sub> = 0
DC current transfer ratio	h <sub>FE</sub> <sup>*1</sup>	85	—	240		V <sub>CE</sub> = 2 V, I <sub>C</sub> = 0.5 A, Pulse
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	—	0.15	0.3	V	I <sub>C</sub> = 0.8 A, I <sub>B</sub> = 0.08 A, Pulse
Base to emitter saturation voltage	V <sub>BE(sat)</sub>	—	0.9	1.0	V	I <sub>C</sub> = 0.8 A, I <sub>B</sub> = 0.08 A, Pulse
Gain bandwidth product	f <sub>T</sub>	—	240	—	MHz	V <sub>CE</sub> = 2 V, I <sub>C</sub> = 0.5 A, Pulse
Collector output capacitance	Cob	—	22	—	pF	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz

Note: 1. The 2SD1366 is grouped by h<sub>FE</sub> as follows.

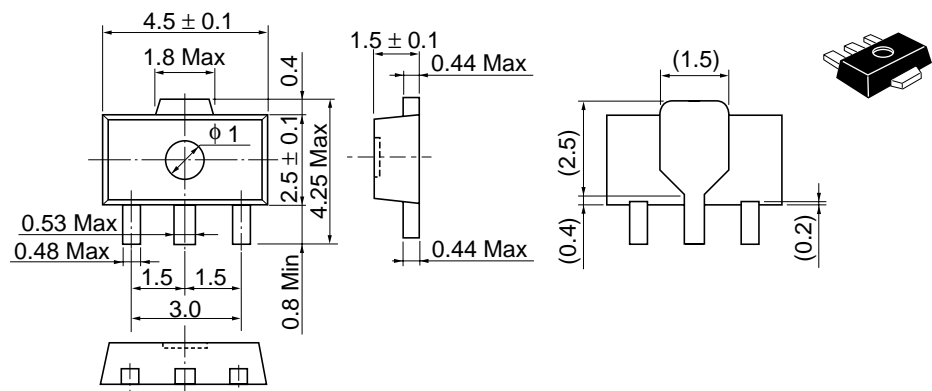
Mark	AA	AB
h <sub>FE</sub>	85 to 170	120 to 240





Package Dimensions

As of January, 2001  
Unit: mm



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

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# HITACHI

**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	NorthAmerica	: <a href="http://semiconductor.hitachi.com/">http://semiconductor.hitachi.com/</a>
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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) 585160

Hitachi Asia Ltd.  
Hitachi Tower  
16 Collyer Quay #20-00,  
Singapore 049318  
Tel: <65>-538-6533/538-8577  
Fax: <65>-538-6933/538-3877  
URL: <http://www.hitachi.com.sg>

Hitachi Asia Ltd.  
(Taipei Branch Office)  
4/F, No. 167, Tun Hwa North Road,  
Hung-Kuo Building,  
Taipei (105), Taiwan  
Tel: <886>-(2)-2718-3666  
Fax: <886>-(2)-2718-8180  
Telex: 23222 HAS-TP  
URL: <http://www.hitachi.com.tw>

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  
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