
2SD1366

Silicon NPN Epitaxial

HITACHI

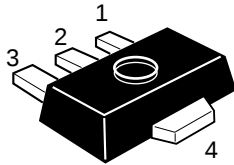
ADE-208-1145 (Z)
1st. Edition
Mar. 2001

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_{CBO}	25	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	1	A
Collector peak current	$i_{C(peak)}^{*1}$	1.5	A
Collector power dissipation	P_C^{*2}	1	W
Junction temperature	T_j	150	°C
Storage temperature	Tstg	−55 to +150	°C

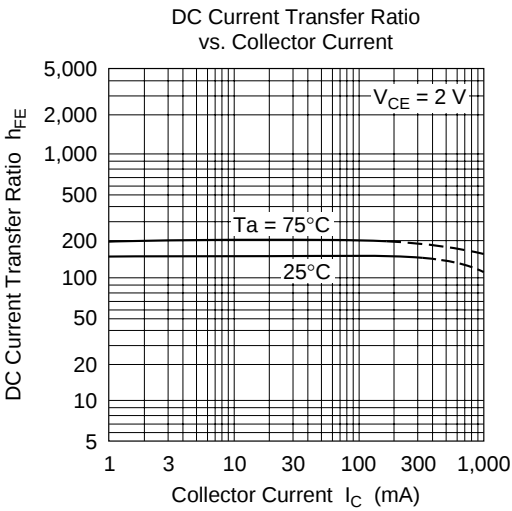
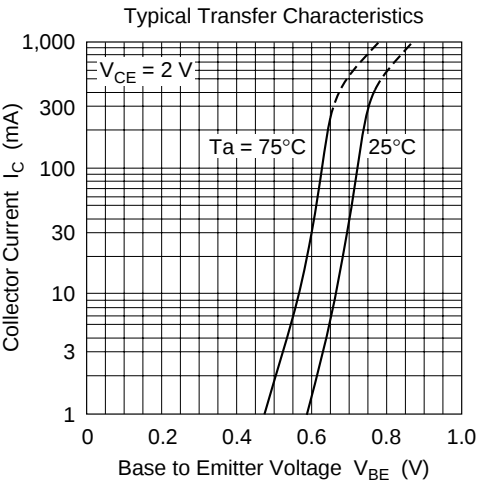
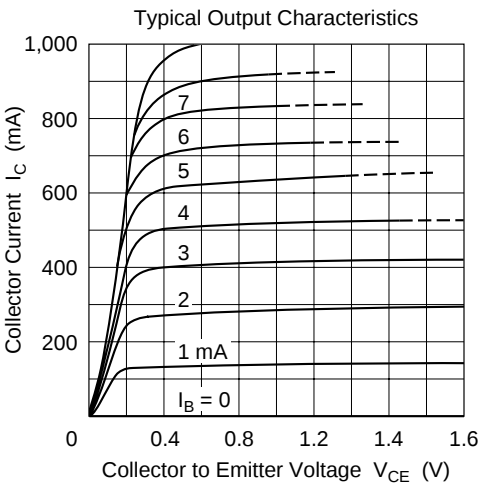
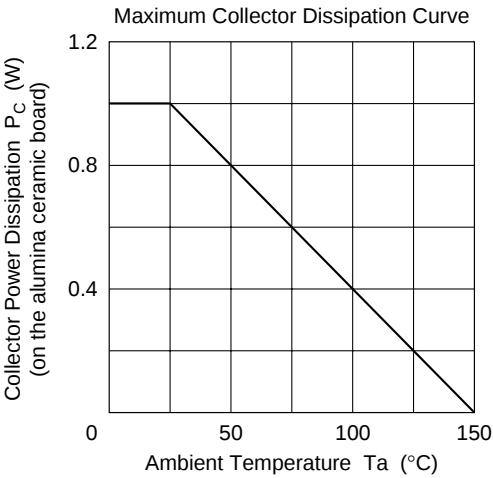
Notes: 1. $PW \leq 10$ ms, Duty cycle $\leq 20\%$.
2. Value on the alumina ceramic board ($12.5 \times 20 \times 0.7$ mm)

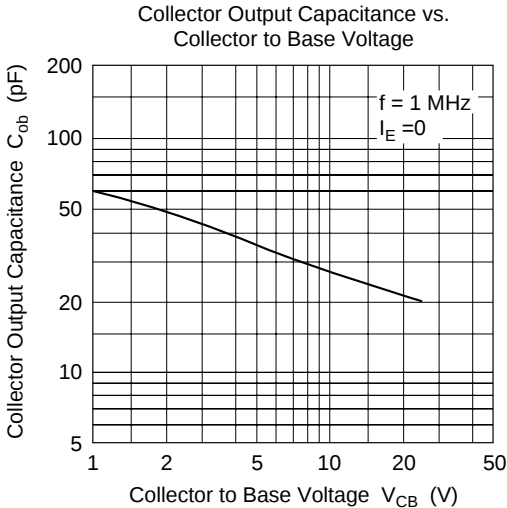
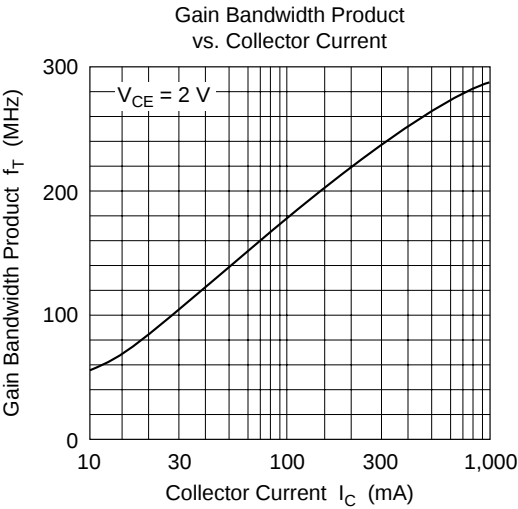
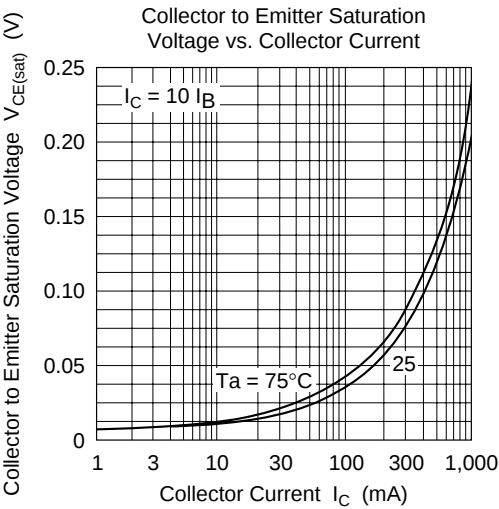
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	25	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	20	—	—	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}	—	—	0.1	μA	$V_{CB} = 20$ V, $I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	0.1	μA	$V_{EB} = 4$ V, $I_C = 0$
DC current transfer ratio	h_{FE}^{*1}	85	—	240		$V_{CE} = 2$ V, $I_C = 0.5$ A, Pulse
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.15	0.3	V	$I_C = 0.8$ A, $I_B = 0.08$ A, Pulse
Base to emitter saturation voltage	$V_{BE(sat)}$	—	0.9	1.0	V	$I_C = 0.8$ A, $I_B = 0.08$ A, Pulse
Gain bandwidth product	f_T	—	240	—	MHz	$V_{CE} = 2$ V, $I_C = 0.5$ A, Pulse
Collector output capacitance	Cob	—	22	—	pF	$V_{CB} = 10$ V, $I_E = 0$, $f = 1$ MHz

Note: 1. The 2SD1366 is grouped by h_{FE} as follows.

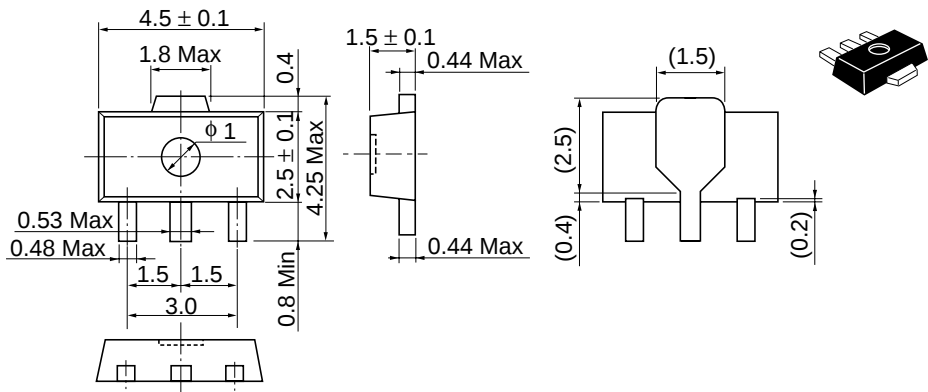
Mark	AA	AB
h_{FE}	85 to 170	120 to 240





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, 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	:	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) 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
URL: <http://www.hitachi.com.hk>

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