2SA1350

Silicon PNP Epitaxial

HITACHI

Application

- Low frequency low noise amplifier
- HF amplefier

Outline

SPAK

1. Emitter
2. Collector
3. Base

Hitachi semiconductor

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	–40	V
Collector to emitter voltage	V_{CEO}	–30	V
Emitter to base voltage	V_{EBO}	–5	V
Collector current	I_C	–100	mA
Collector power dissipation	P_C	300	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

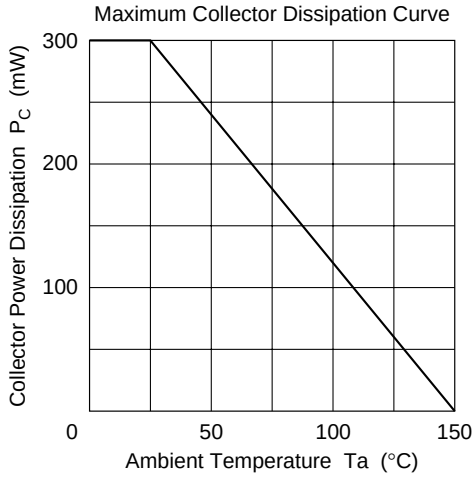
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	–40	—	—	V	I_C = –10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	–30	—	—	V	I_C = –1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	–5	—	—	V	I_E = –10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	–0.5	µA	V_{CB} = –18 V, I_E = 0
Emitter cutoff current	I_{EBO}	—	—	–0.5	µA	V_{EB} = –2 V, I_C = 0
DC current transfer ratio	h_{FE}*[1]	100	—	500		V_{CE} = –12 V, I_C = –2 mA
Base to emitter voltage	V_{BE}	—	—	–0.75	V	V_{CE} = –12 V, I_C = –2 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	–0.2	V	I_C = –10 mA, I_B = –1 mA
Gain bandwidth product	f_T	—	200	—	MHz	V_{CE} = –12 V, I_C = –2 mA
Collector output capacitance	Cob	—	—	4.5	pF	V_{CB} = –10 V, I_E = 0, f = 1 MHz
Noise figure	NF	—	1.0	5.0	dB	V_{CE} = –6 V, I_C = –0.1 mA R_g = 1 kΩ, f = 1 kHz

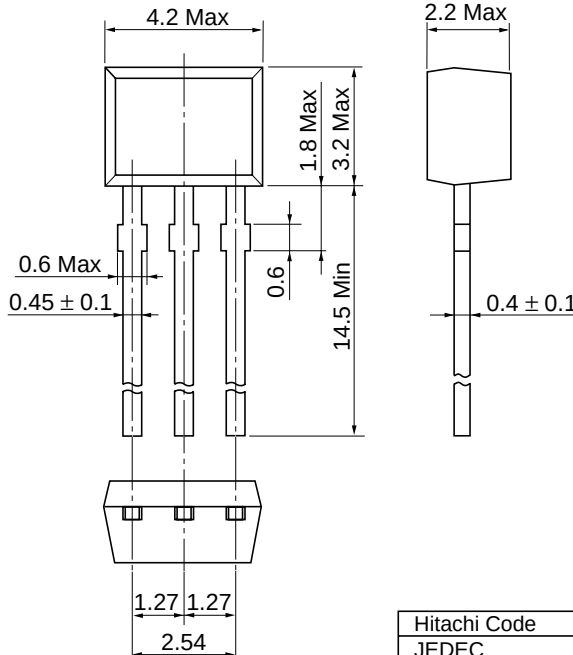
Note: 1. The 2SA1350 is grouped by h_{FE} as follows.

B	C	D
100 to 200	160 to 320	250 to 500

See characteristic curves of 2SA1031.


Maximum Collector Dissipation Curve
Collector Power Dissipation P_C (mW)
300
200
100
0
50
100
150
Ambient Temperature Ta (°C)

Unit: mm



Hitachi Code	SPAK
JEDEC	—
EIAJ	—
Weight (reference value)	0.10 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 : http:semiconductor.hitachi.com/
Europe : http://www.hitachi-eu.com/hel/ecg
Asia (Singapore) : http://www.has.hitachi.com.sg/grp3/sicd/index.htm
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Asia (HongKong) : http://www.hitachi.com.hk/eng/bo/grp3/index.htm
Japan : http://www.hitachi.co.jp/Sicd/indx.htm

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