

To all our customers

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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

Cautions

Keep safety first in your circuit designs!

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Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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2SC3836

Silicon NPN Epitaxial

RENESAS

ADE-208-1092 (Z)
1st. Edition
Mar. 2001

Application

Low frequency amplifier, switching

Outline

SPAK



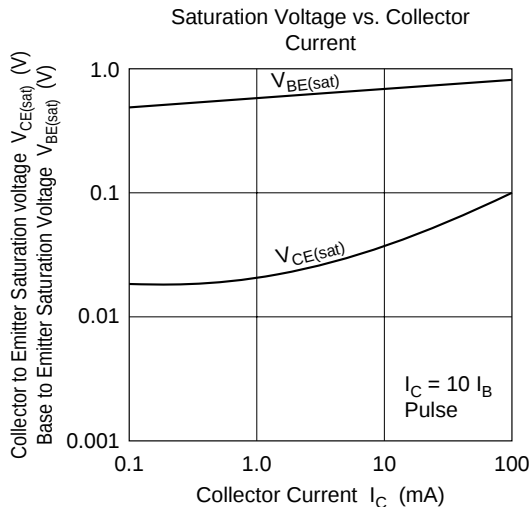
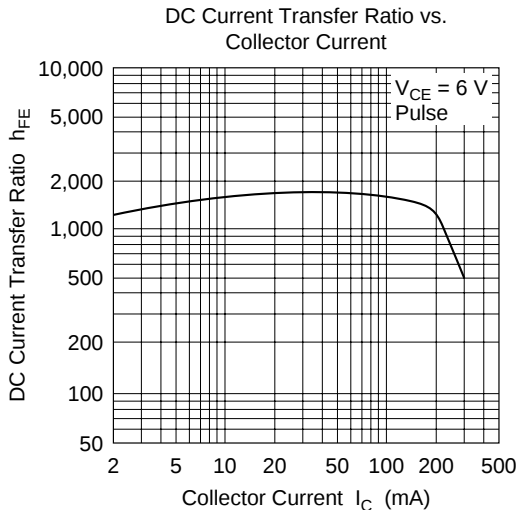
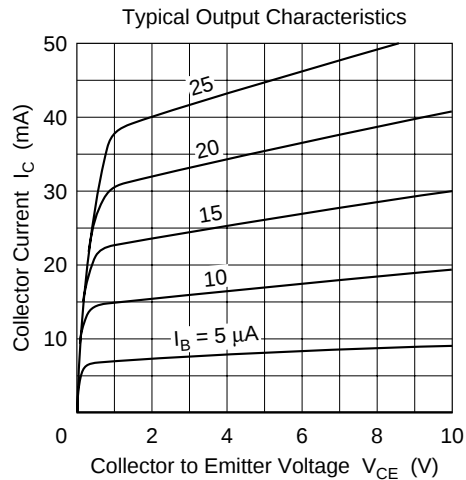
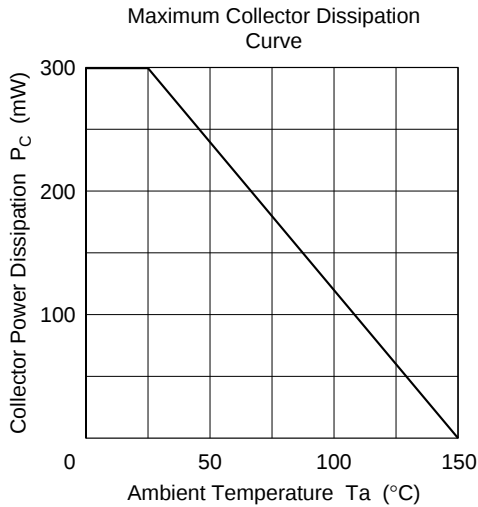
- 1. Emitter
- 2. Collector
- 3. Base

Absolute Maximum Ratings (Ta = 25°C)

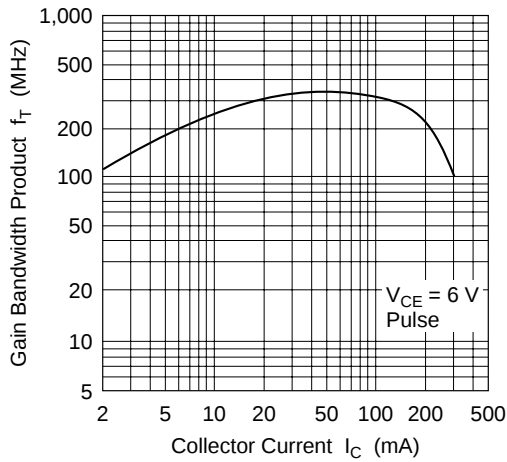
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	60	V
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	15	V
Collector current	I_C	300	mA
Collector power dissipation	P_C	300	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Electrical Characteristics (Ta = 25°C)

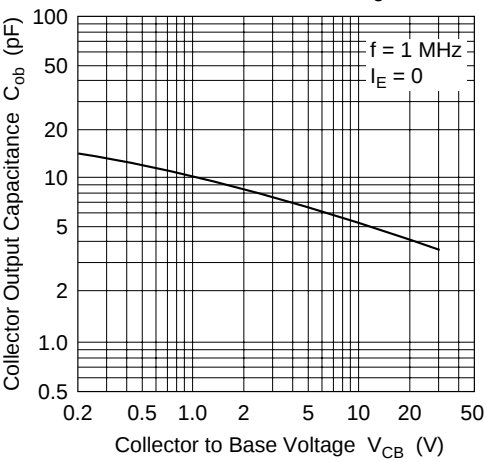
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	60	—	—	V	$I_C = 10\text{ }\mu\text{A}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	50	—	—	V	$I_C = 1\text{ mA}$, $R_{BE} =$
Emitter to base breakdown voltage	$V_{(BE)EBO}$	15	—	—	V	$I_E = 10\text{ }\mu\text{A}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	1	μA	$V_{CB} = 50\text{ V}$, $I_E = 0$
Base to emitter voltage	V_{BE}	—	—	0.75	V	$V_{CE} = 6\text{ V}$, $I_C = 1\text{ mA}$
DC current transfer ratio	h_{FE1}	800	—	2000		$V_{CE} = 6\text{ V}$, $I_C = 100\text{ mA}$ (pulse test)
	h_{FE2}	500	—	—		$V_{CE} = 6\text{ V}$, $I_C = 1\text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	$I_C = 300\text{ mA}$, $I_B = 30\text{ mA}$ (pulse test)



Gain Bandwidth Product vs.
Collector Current

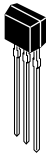
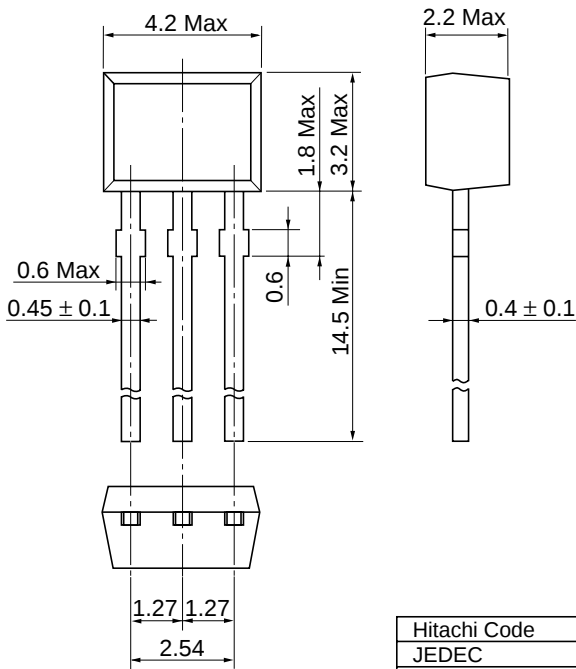


Collector Output Capacitance vs.
Collector to Base Voltage



Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	SPAK
JEDEC	—
EIAJ	—
Mass (reference value)	0.10 g

Cautions

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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	:	http://sicapac.hitachi-asia.com
	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) 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>