2SA2081

Silicon PNP Epitaxial

HITACHI

ADE-208-1477 (Z)

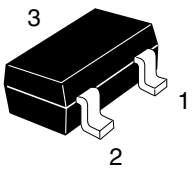
Rev.0
Feb. 2002

Features

- Low frequency amplifier

Outline

CMPAK



1. Emitter
2. Base
3. Collector

Hitachi semiconductor

Absolute Maximum Ratings

(Ta = 25 °C)

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

*Value on the glass epoxy board (10 mm x 10 mm x 0.7 mm)

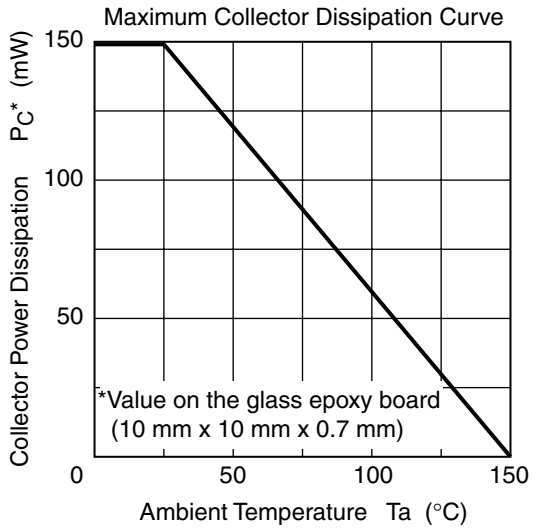
Electrical Characteristics

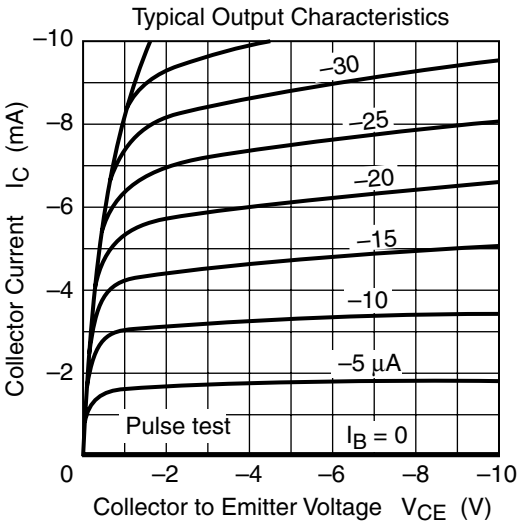
(Ta = 25 °C)

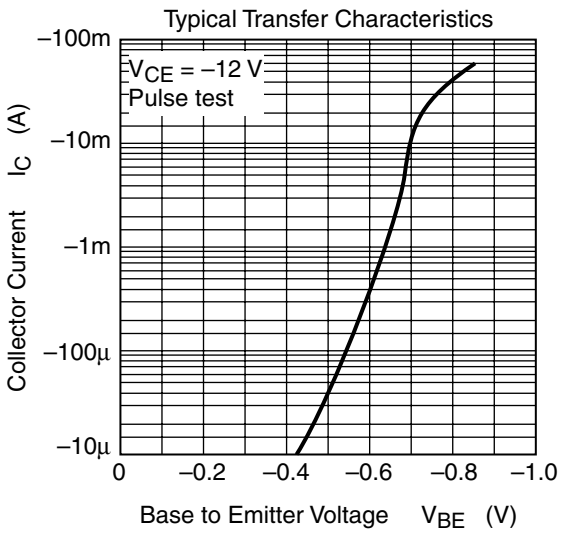
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	–55	—	—	V	I_C = –10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	–55	—	—	V	I_C = –1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	–5	—	—	V	I_E = –10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	–0.5	µA	V_{CB} = –30 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]	160	—	800	—	V_{CE} = –12 V, I_C = –2 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	–0.5	V	I_C = –10 mA, I_B = –1 mA
Base to emitter voltage	V_{BE}	—	—	–0.75	V	V_{CE} = –12 V, I_C = –2 mA

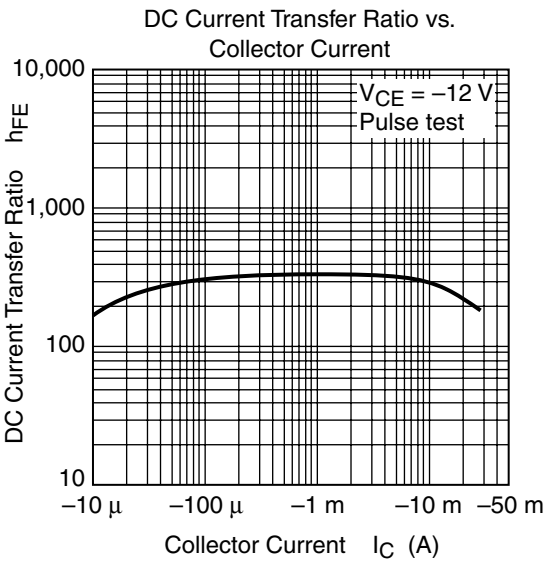
Notes: 1. The 2SA2081 is grouped by h_{FE} as follows.

Grade	C	D	E
Mark	CC	CD	CE
h_{FE}	160 to 320	250 to 500	400 to 800

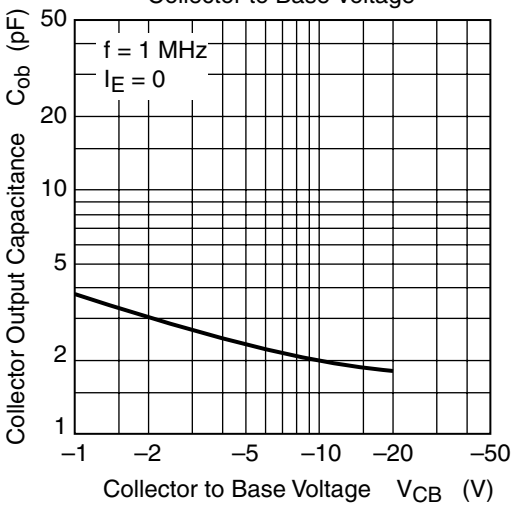

Maximum Collector Dissipation Curve
Collector Power Dissipation P_C* (mW)
150
100
50
0
50
100
150
*Value on the glass epoxy board
(10 mm x 10 mm x 0.7 mm)
Ambient Temperature Ta (°C)


Typical Output Characteristics
Collector Current I_C (mA)
–10
–8
–6
–4
–2
0
–2
–4
–6
–8
–10
–30
–25
–20
–15
–10
–5 µA
Pulse test
I_B = 0
Collector to Emitter Voltage V_{CE} (V)


Typical Transfer Characteristics
Collector Current I_C (A)
–100m
–10m
–1m
–100µ
–10µ
V_{CE} = –12 V
Pulse test
0
–0.2
–0.4
–0.6
–0.8
–1.0
Base to Emitter Voltage V_{BE} (V)

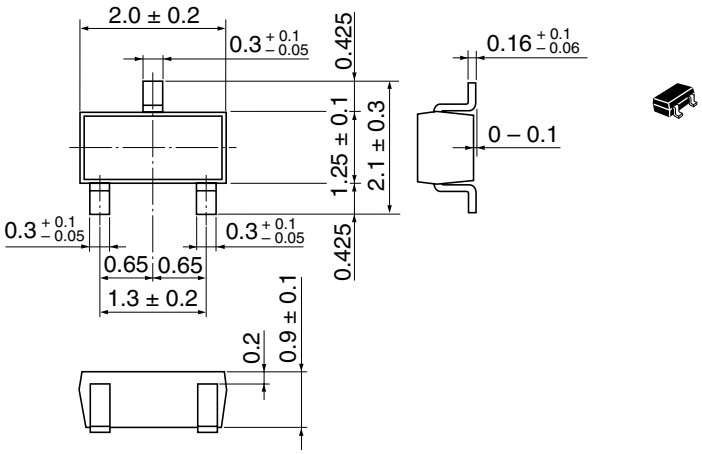

DC Current Transfer Ratio vs.
Collector Current
DC Current Transfer Ratio h_{FE}
10,000
1,000
100
10
V_{CE} = –12 V
Pulse test
–10 µ
–100 µ
–1 m
–10 m
–50 m
Collector Current I_C (A)

Collector Output Capacitance vs.
Collector to Base Voltage



Package Dimensions

As of July, 2001
Unit: mm



Hitachi Code	CMPAK
JEDEC	—
JEITA	Conforms
Mass (reference value)	0.006 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: (03) 3270-2111 Fax: (03) 3270-5109

URL http://www.hitachisemiconductor.com/

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 Ltd.
Electronic Components Group
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA, United Kingdom
Tel: <44> (1628) 585000
Fax: <44> (1628) 585200

Hitachi Europe GmbH
Electronic Components Group
Dornacher Straße 3
D-85622 Feldkirchen
Postfach 201, D-85619 Feldkirchen
Germany
Tel: <49> (89) 9 9180-0
Fax: <49> (89) 9 29 30 00

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://semiconductor.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://semiconductor.hitachi.com.hk

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