
2SC5081

Silicon NPN Epitaxial

HITACHI

Application

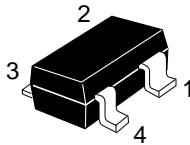
VHF / UHF wide band amplifier

Features

- High gain bandwidth product
 $f_T = 13.5 \text{ GHz Typ}$
- High gain, low noise figure
 $PG = 18 \text{ dB Typ}$, $NF = 1.1 \text{ dB Typ}$ at $f = 900 \text{ MHz}$

Outline

CMPAK-4



1. Collector
2. Emitter
3. Base
4. Emitter

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

| Item | Symbol | Ratings | Unit |
|------------------------------|------------------|-------------|------------------|
| Collector to base voltage | V_{CBO} | 15 | V |
| Collector to emitter voltage | V_{CEO} | 8 | V |
| Emitter to base voltage | V_{EBO} | 1.5 | V |
| Collector current | I_{C} | 50 | mA |
| Collector power dissipation | P_{C} | 100 | mW |
| Junction temperature | T_{j} | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

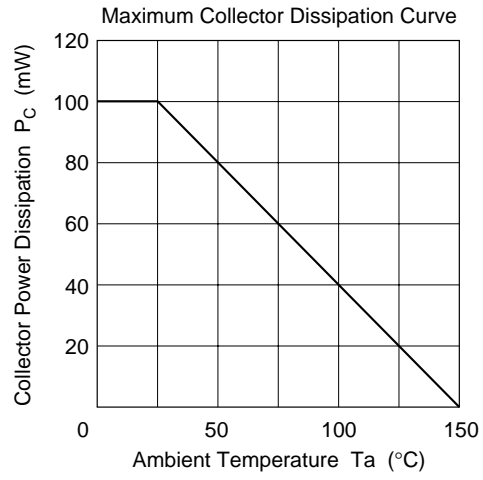
| Item | Symbol | Min | Typ | Max | Unit | Test conditions |
|-------------------------------------|-----------------------------|------|------|------|---------------|---|
| Collector to base breakdown voltage | $V_{(\text{BR})\text{CBO}}$ | 15 | — | — | V | $I_{\text{C}} = 10 \mu\text{A}$, $I_{\text{E}} = 0$ |
| Collector cutoff current | I_{CBO} | — | — | 1 | μA | $V_{\text{CB}} = 12 \text{ V}$, $I_{\text{E}} = 0$ |
| | I_{CEO} | — | — | 1 | mA | $V_{\text{CE}} = 8 \text{ V}$, $R_{\text{BE}} = \infty$ |
| Emitter cutoff current | I_{EBO} | — | — | 10 | μA | $V_{\text{EB}} = 1.5 \text{ V}$, $I_{\text{C}} = 0$ |
| DC current transfer ratio | h_{FE} | 50 | 90 | 160 | | $V_{\text{CE}} = 5 \text{ V}$, $I_{\text{C}} = 20 \text{ mA}$ |
| Collector output capacitance | C_{ob} | — | 0.4 | 0.75 | pF | $V_{\text{CB}} = 5 \text{ V}$, $I_{\text{E}} = 0$, $f = 1 \text{ MHz}$ |
| Gain bandwidth product | f_{T} | 10.5 | 13.5 | — | GHz | $V_{\text{CE}} = 5 \text{ V}$, $I_{\text{C}} = 20 \text{ mA}$ |
| Power gain | PG | 15 | 18 | — | dB | $V_{\text{CE}} = 5 \text{ V}$, $I_{\text{C}} = 20 \text{ mA}$, $f = 900 \text{ MHz}$ |
| Noise figure | NF | — | 1.1 | 2.0 | dB | $V_{\text{CE}} = 5 \text{ V}$, $I_{\text{C}} = 5 \text{ mA}$, $f = 900 \text{ MHz}$ |

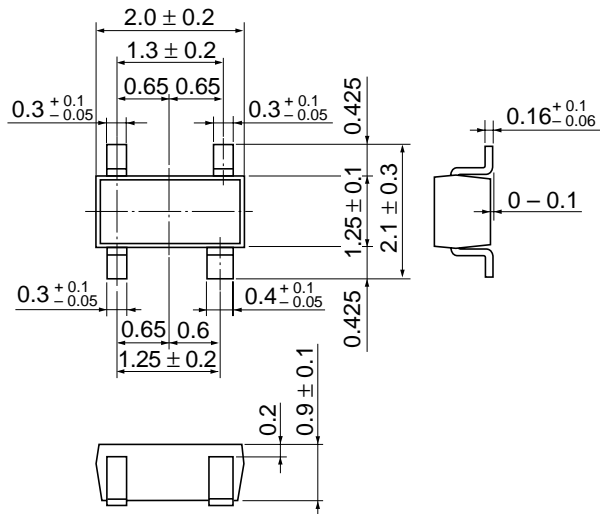
Note: Marking is “ZD—”.

Attention: This device is very sensitive to electro static discharge.

It is recommended to adopt appropriate cautions when handling this transistor.

See characteristic curves of 2SC5080.





| | |
|--------------------------|------------|
| Hitachi Code | CMPAK-4(T) |
| JEDEC | — |
| EIAJ | Conforms |
| Weight (reference value) | 0.006 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 North America : <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) 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

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