
2SB561

Silicon PNP Epitaxial

HITACHI

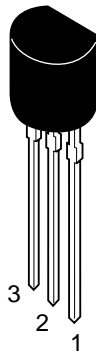
ADE-208-1023 (Z)
1st. Edition
Mar. 2001

Application

- Low frequency power amplifier
- Complementary pair with 2SD467

Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

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

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}	-0.7	A
Collector peak current	$i_{\text{C(peak)}}$	-1.0	A
Collector power dissipation	P_{C}	0.5	W
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

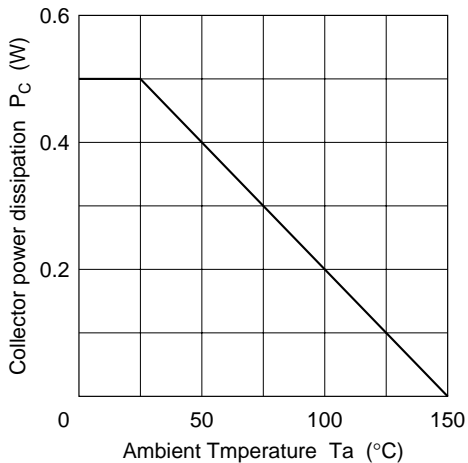
Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	-25	—	—	V	$I_{\text{C}} = -10 \mu\text{A}$, $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	-20	—	—	V	$I_{\text{C}} = -1 \text{ mA}$, $R_{\text{BE}} = \infty$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	-5	—	—	V	$I_{\text{E}} = -10 \mu\text{A}$, $I_{\text{C}} = 0$
Collector cutoff current	I_{CBO}	—	—	-1.0	μA	$V_{\text{CB}} = -20 \text{ V}$, $I_{\text{E}} = 0$
DC current transfer ratio	h_{FE}^{*1}	85	—	240		$V_{\text{CE}} = -1 \text{ V}$, $I_{\text{C}} = -0.15 \text{ A}$ (Pulse test)
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	—	-0.2	-0.5	V	$I_{\text{C}} = -0.5 \text{ A}$, $I_{\text{B}} = -0.05 \text{ A}$
Base to emitter voltage	V_{BE}	—	-0.75	-1.0	V	$V_{\text{CE}} = -1 \text{ V}$, $I_{\text{C}} = -0.15 \text{ A}$
Gain bandwidth product	f_{T}	—	350	—	MHz	$V_{\text{CE}} = -1 \text{ V}$, $I_{\text{C}} = -0.15 \text{ A}$
Collector output capacitance	C_{ob}	—	20	—	pF	$V_{\text{CB}} = -10 \text{ V}$, $I_{\text{E}} = 0$ $f = 1 \text{ MHz}$

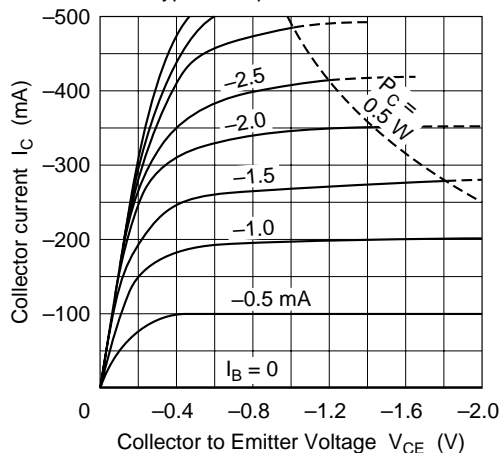
Note: 1. The 2SB561 is grouped by h_{FE} as follows.

B	C
85 to 170	120 to 240

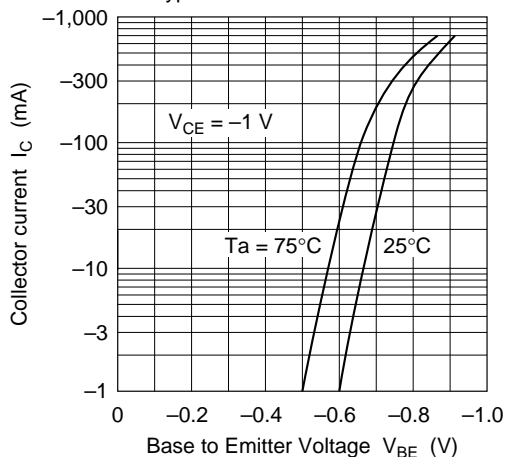
Maximum Collector Dissipation Curve



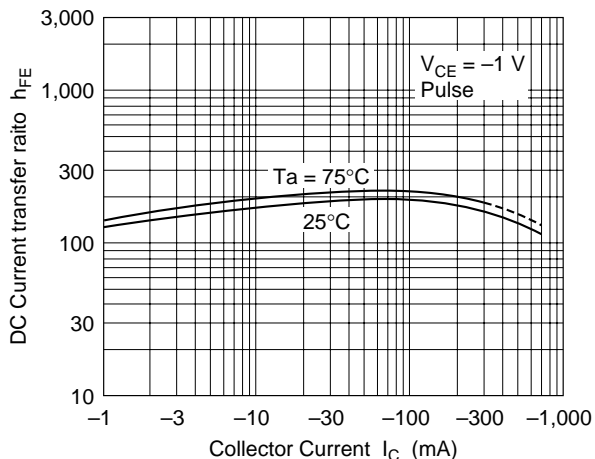
Typical Output Characteristics



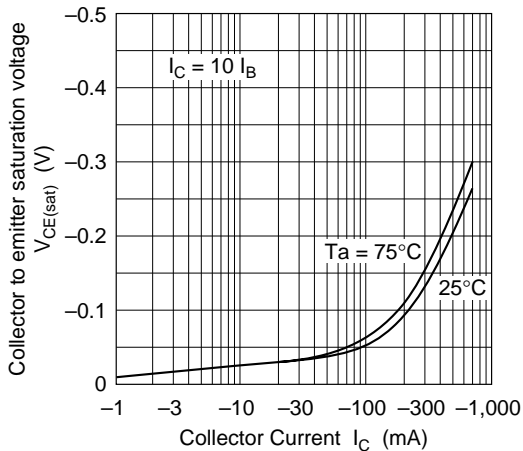
Typical Transfer Characteristics



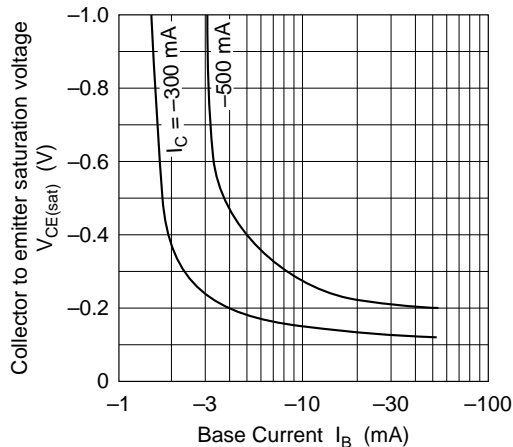
DC Current Transfer Ratio vs. Collector Current



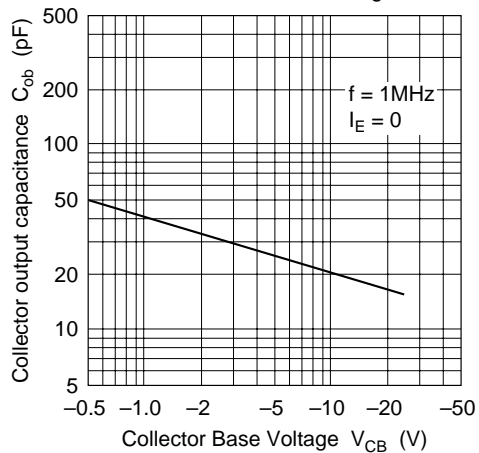
Collector to Emitter Saturation Voltage vs. Collector Current



Collector to Emitter Saturation Voltage vs. Base Current

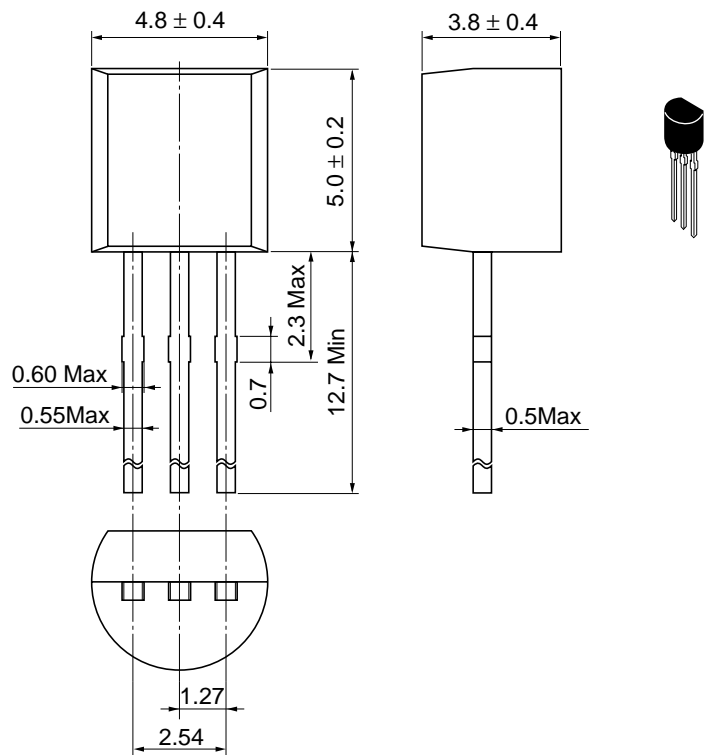


Collector Output Capacitance vs. Collector to Base Voltage



Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	TO-92 (1)
JEDEC	Conforms
EIAJ	Conforms
Mass (reference value)	0.25 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/>
Europe : <http://www.hitachi-eu.com/hel/ecg>
Asia : <http://sicapac.hitachi-asia.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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