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# 2SB561

Silicon PNP Epitaxial

# HITACHI

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

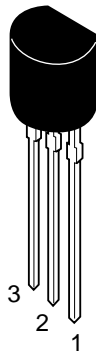
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## Application

- Low frequency power amplifier
- Complementary pair with 2SD467

## Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

## 2SB561

### Absolute Maximum Ratings (Ta = 25°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	$i_{C(peak)}$	-1.0	A
Collector power dissipation	$P_C$	0.5	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

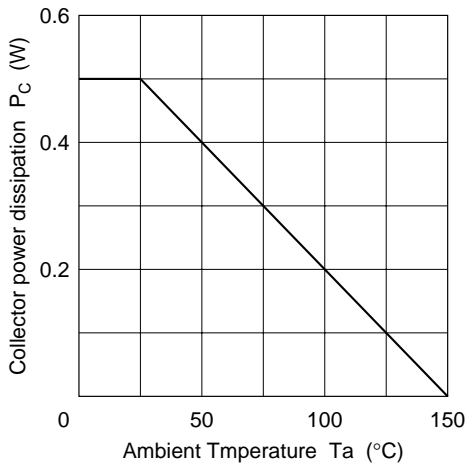
### Electrical Characteristics (Ta = 25°C)

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

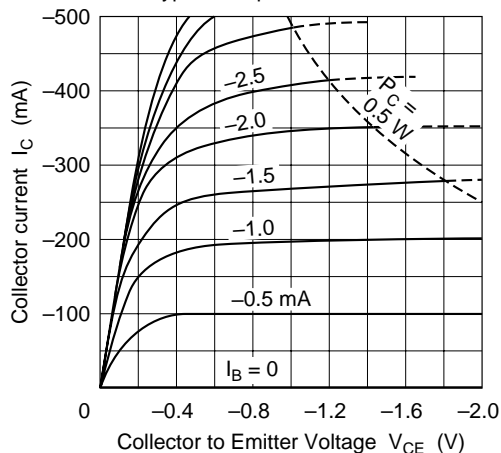
Note: 1. The 2SB561 is grouped by  $h_{FE}$  as follows.

B	C
85 to 170	120 to 240

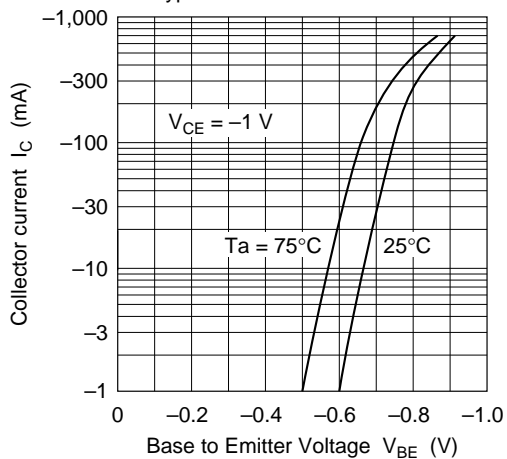
Maximum Collector Dissipation Curve



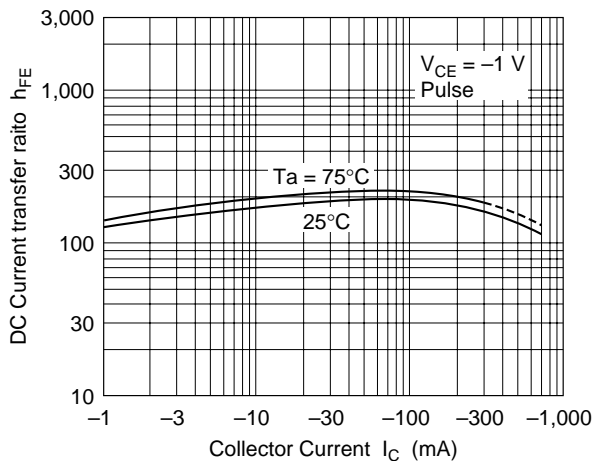
Typical Output Characteristics



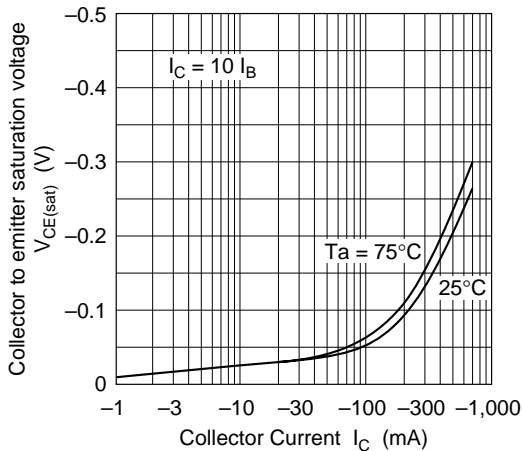
Typical Transfer Characteristics



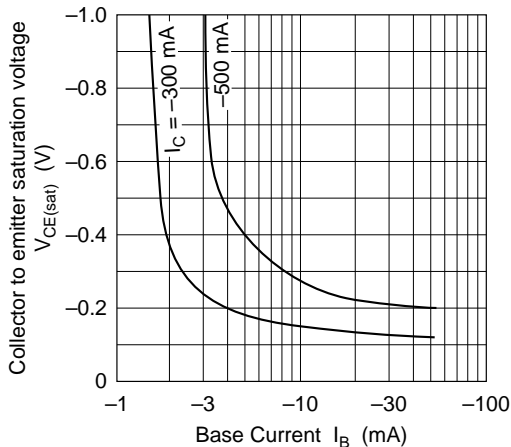
DC Current Transfer Ratio vs. Collector Current



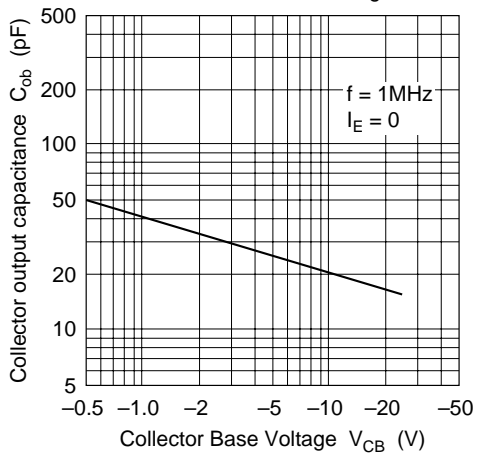
Collector to Emitter Saturation Voltage vs. Collector Current



Collector to Emitter Saturation Voltage vs. Base Current

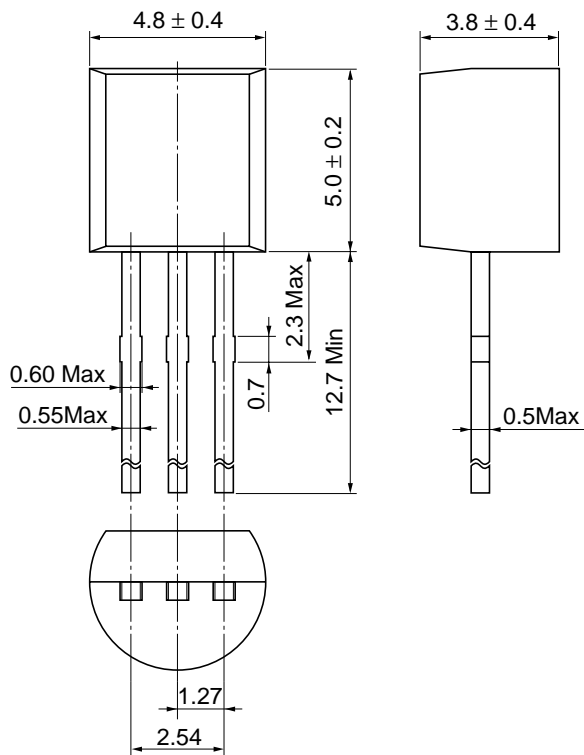


Collector Output Capacitance vs. Collector to Base Voltage



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

**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>  
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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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