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# 2SB561

Silicon PNP Epitaxial

# HITACHI

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

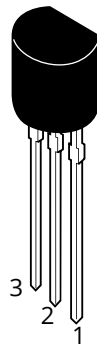
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## Application

- 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    | VCBO     | -25         | V    |
| Collector to emitter voltage | VCEO     | -20         | V    |
| Emitter to base voltage      | VEBO     | -5          | V    |
| Collector current            | IC       | -0.7        | A    |
| Collector peak current       | iC(peak) | -1.0        | A    |
| Collector power dissipation  | )        | 0.5         | W    |
| Junction temperature         | PC       | 150         | °C   |
| Storage temperature          | Tj       | -55 to +150 | °C   |

Tstg

## Electrical Characteristics (Ta = 25°C)

| Item                                    | Symbol   | Min   | Typ | Max | Unit | Test conditions                       |
|---|----------|-------|-----|-----|------|---------------------------------------|
| Collector to base breakdown voltage     | V(BR)CBO | -25   |     | -   | V    | IC = -10 μA, IE = 0                   |
| Collector to emitter breakdown voltage  | V(BR)CEO | -20   |     | -   | V    | IC = -1 mA, RBE = ∞                   |
| Emitter to base breakdown voltage       | V(BR)EBO | -5    |     | -   | V    | IE = -10 μA, IC = 0                   |
| Collector cutoff current                | ICBO     |       |     | 1.0 | μA   | VCE = -20 V, IE = 0                   |
| DC current transfer ratio               | hFE      | 85    |     | 240 |      | VCE = -1 V, IC = -0.15 A (Pulse test) |
| Collector to emitter saturation voltage | VCE(sat) | -0.2  |     | -   | V    | IC = -0.5 A, IB = -0.05 A             |
| Base to emitter voltage                 | VBE      | -0.75 |     | 0.5 | V    | VCE = -1 V, IC = -0.15 A              |
| Gain bandwidth product                  | fT       | -350  |     | -   | MHz  | VCE = -1 V, IC = -0.15 A              |
| Collector output capacitance            | Cob      | -20   |     | 1.0 | pF   | VCB = -10 V, IE = 0<br>f = 1 MHz      |

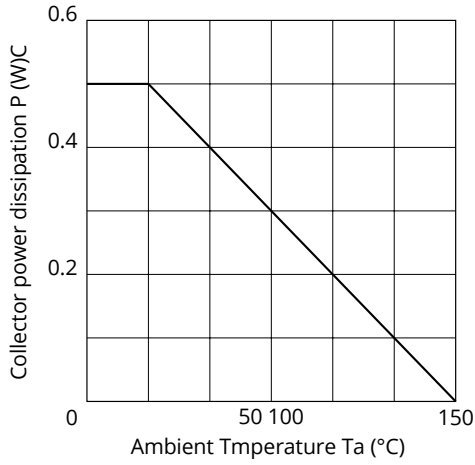
Note: 1. The 2SB561 is grouped by hFE as follows.

**B C**

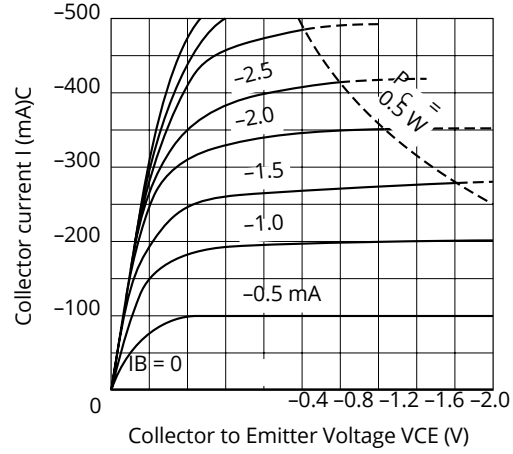
85 to 170 120 to 240

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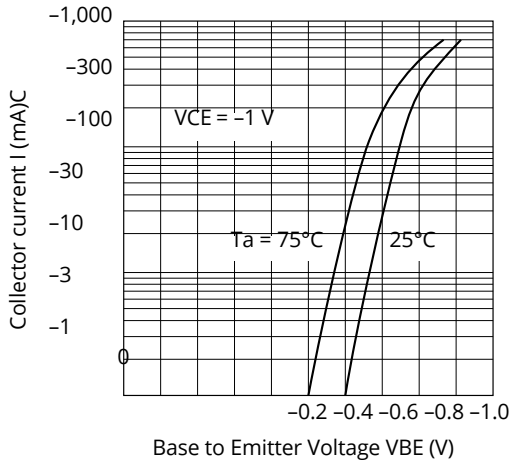
Maximum Collector Dissipation Curve



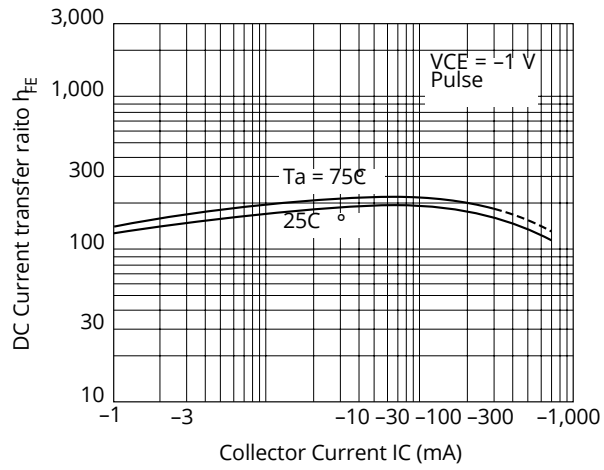
Typical Output Characteristics

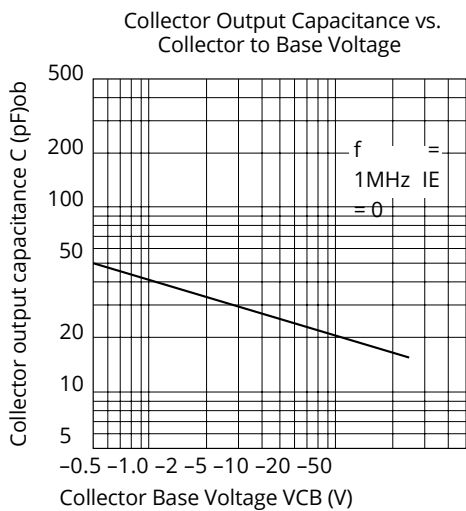
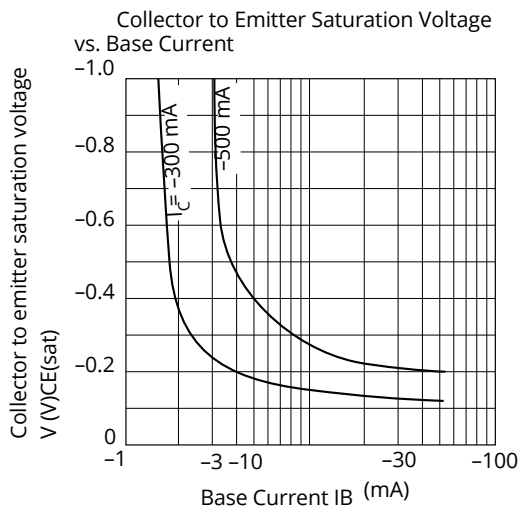
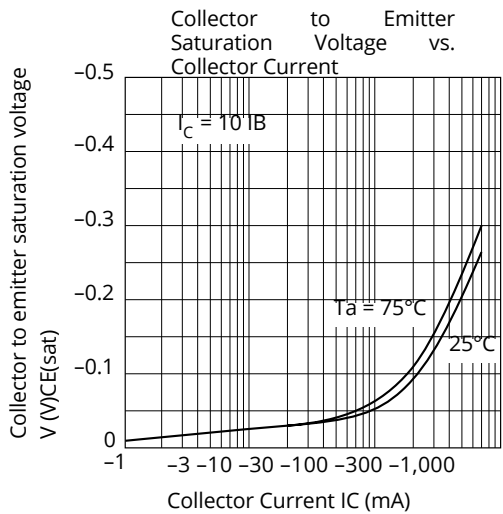


Typical Transfer Characteristics



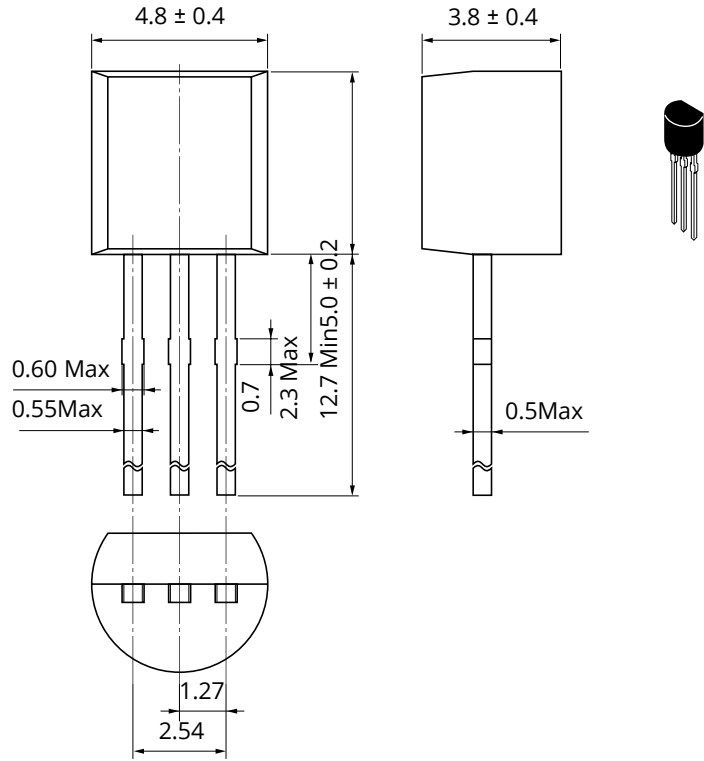
DC Current Transfer Ratio vs. Collector Current





Package Dimensions

As of January, 2001  
Unit: mm



|                        |                     |
|------------------------|---------------------|
| Hitachi Code           | TO-92 (1)           |
| JEDEC                  | Conform             |
| EIAJ                   | S                   |
| Mass (reference value) | Conform<br>s 0.25 g |

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