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# 2SB561

Silicon PNP Epitaxial

# HITACHI

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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	$i_{C(\text{peak})}$	-1.0	A
Collector power dissipation	$P_C$	0.5	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{\text{stg}}$	-55 to +150	°C

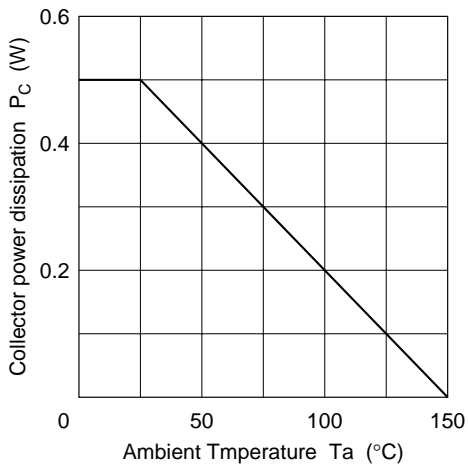
## Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-25	—	—	V	$I_C = -10 \mu\text{A}$ , $I_E = 0$
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	$I_E = -10 \mu\text{A}$ , $I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	-1.0	$\mu\text{A}$	$V_{CB} = -20 \text{ V}$ , $I_E = 0$
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	$V_{CE(\text{sat})}$	—	-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	$V_{CB} = -10 \text{ V}$ , $I_E = 0$ $f = 1 \text{ MHz}$

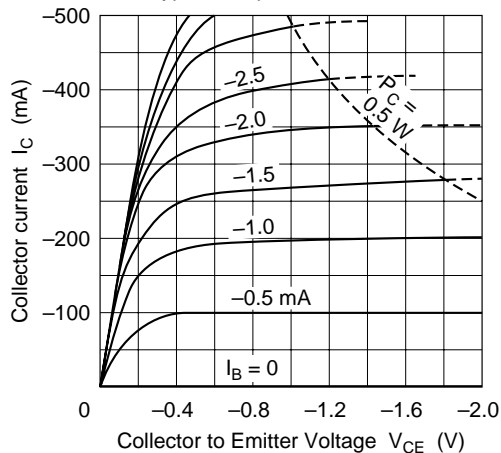
Note: 1. The 2SB561 is grouped by  $h_{FE}$  as follows.

B	C
85 to 170	120 to 240

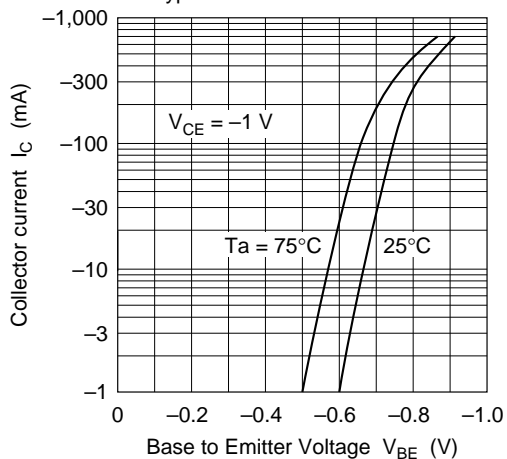
Maximum Collector Dissipation Curve



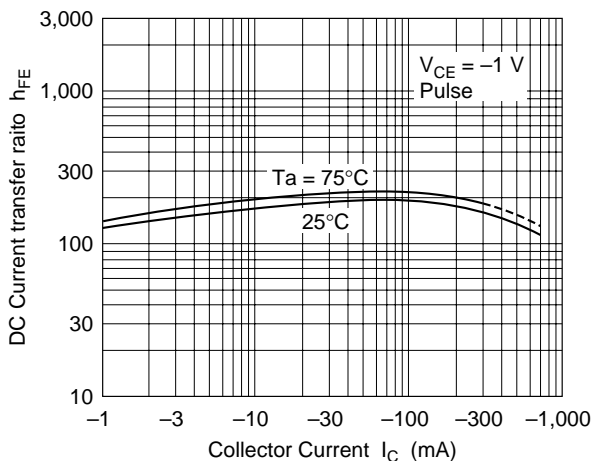
Typical Output Characteristics



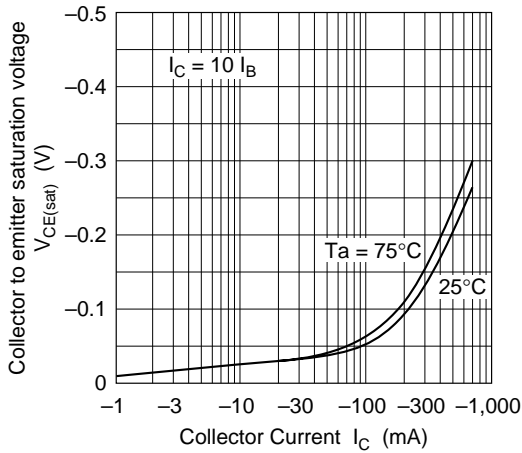
Typical Transfer Characteristics



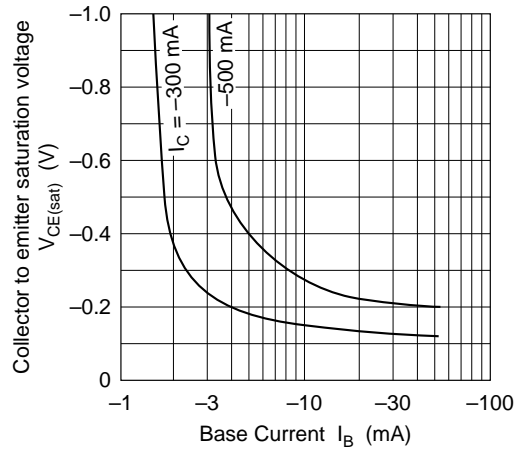
DC Current Transfer Ratio vs. Collector Current



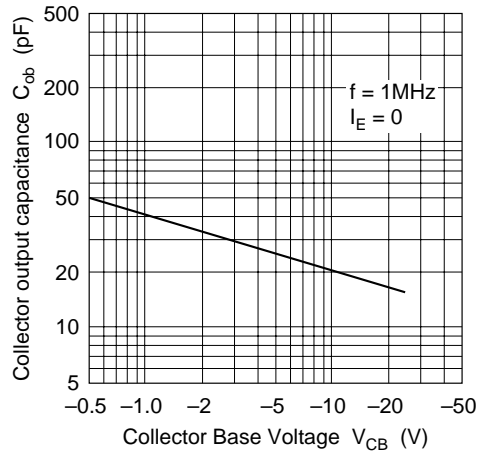
Collector to Emitter Saturation Voltage vs. Collector Current

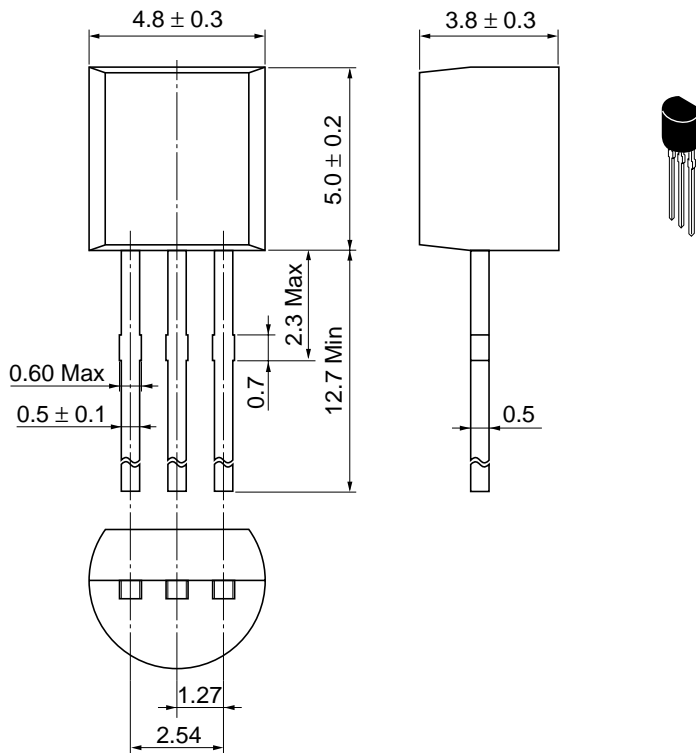


Collector to Emitter Saturation Voltage vs. Base Current



Collector Output Capacitance vs. Collector to Base Voltage





Hitachi Code	TO-92 (1)
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.25 g

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