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# 2SD667, 2SD667A

Silicon NPN Epitaxial

# HITACHI

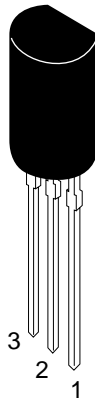
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## Application

- Low frequency power amplifier
- Complementary pair with 2SB647/A

## Outline

TO-92MOD



1. Emitter
2. Collector
3. Base

# 2SD667, 2SD667A

## Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	2SD667	2SD667A	Unit
Collector to base voltage	$V_{CBO}$	120	120	V
Collector to emitter voltage	$V_{CEO}$	80	100	V
Emitter to base voltage	$V_{EBO}$	5	5	V
Collector current	$I_C$	1	1	A
Collector peak current	$i_{C(\text{peak})}$	2	2	A
Collector power dissipation	$P_C$	0.9	0.9	W
Junction temperature	$T_j$	150	150	°C
Storage temperature	$T_{\text{stg}}$	-55 to +150	-50 to +150	°C

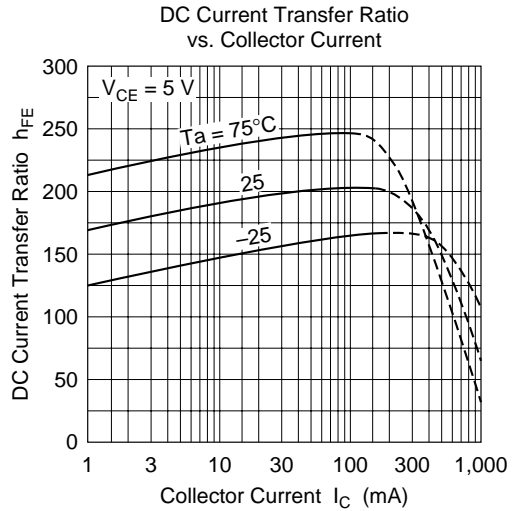
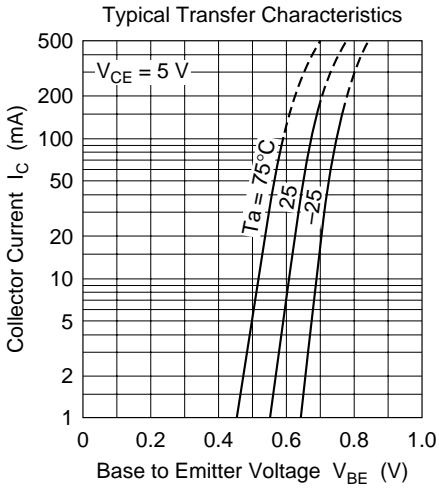
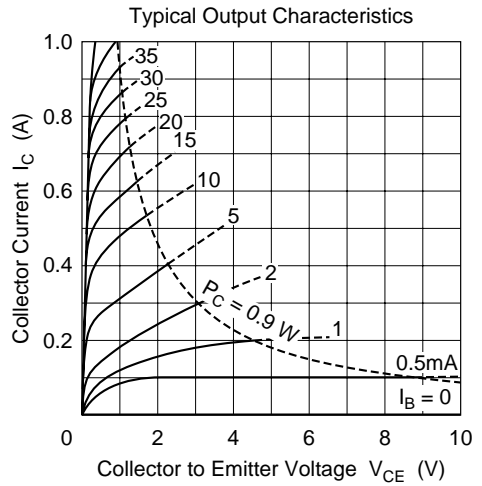
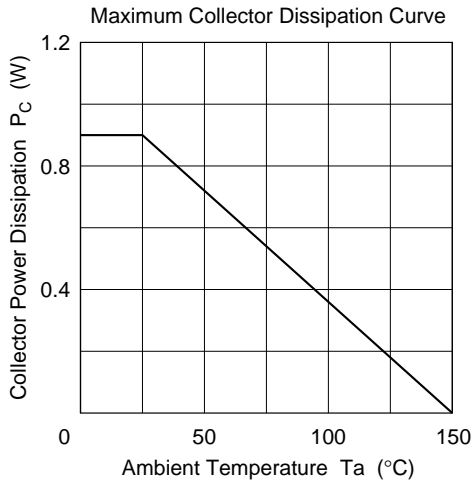
## Electrical Characteristics (Ta = 25°C)

Item	Symbol	2SD667			2SD667A			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	120	—	—	120	—	—	V	$I_C = 10 \mu\text{A}, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	80	—	—	100	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	5	—	—	V	$I_E = 10 \mu\text{A}, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	10	—	—	10	$\mu\text{A}$	$V_{CB} = 100 \text{ V}, I_E = 0$
DC current transfer ratio	$h_{FE1}^{*1}$	60	—	320	60	—	200		$V_{CE} = 5 \text{ V},$ $I_C = 150 \text{ mA}^{*2}$
	$h_{FE2}$	30	—	—	30	—	—		$V_{CE} = 5 \text{ V},$ $I_C = 500 \text{ mA}^{*2}$
Collector to emitter saturation voltage	$V_{CE(\text{sat})}$	—	—	1	—	—	1	V	$I_C = 500 \text{ mA},$ $I_B = 50 \text{ mA}^{*2}$
Base to emitter voltage	$V_{BE}$	—	—	1.5	—	—	1.5	V	$V_{CE} = 5 \text{ V},$ $I_C = 150 \text{ mA}^{*2}$
Gain bandwidth product	$f_T$	—	140	—	—	140	—	MHz	$V_{CE} = 5 \text{ V},$ $I_C = 150 \text{ mA}^{*2}$
Collector output capacitance	$C_{ob}$	—	12	—	—	12	—	pF	$V_{CB} = 10 \text{ V}, I_E = 0,$ $f = 1 \text{ MHz}$

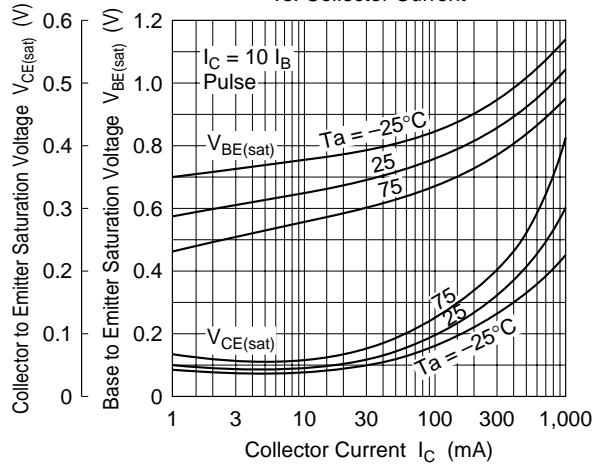
Notes: 1. The 2SD667 and 2SD667A are grouped by  $h_{FE1}$  as follows.

2. Pulse test

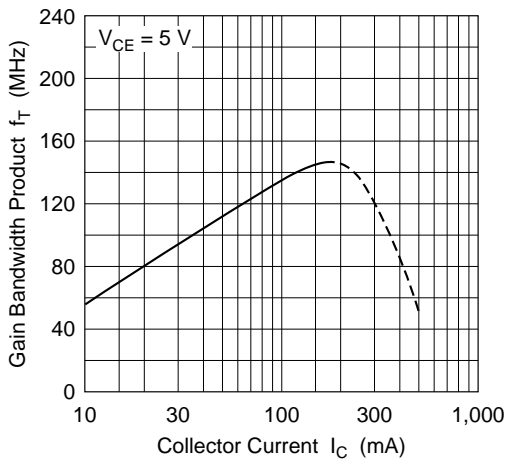
	B	C	D
2SD667	60 to 120	100 to 200	160 to 320
2SD667A	60 to 120	100 to 200	



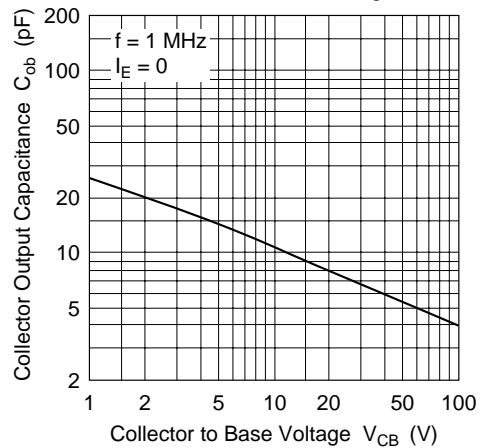
Saturation Voltage vs. Collector Current

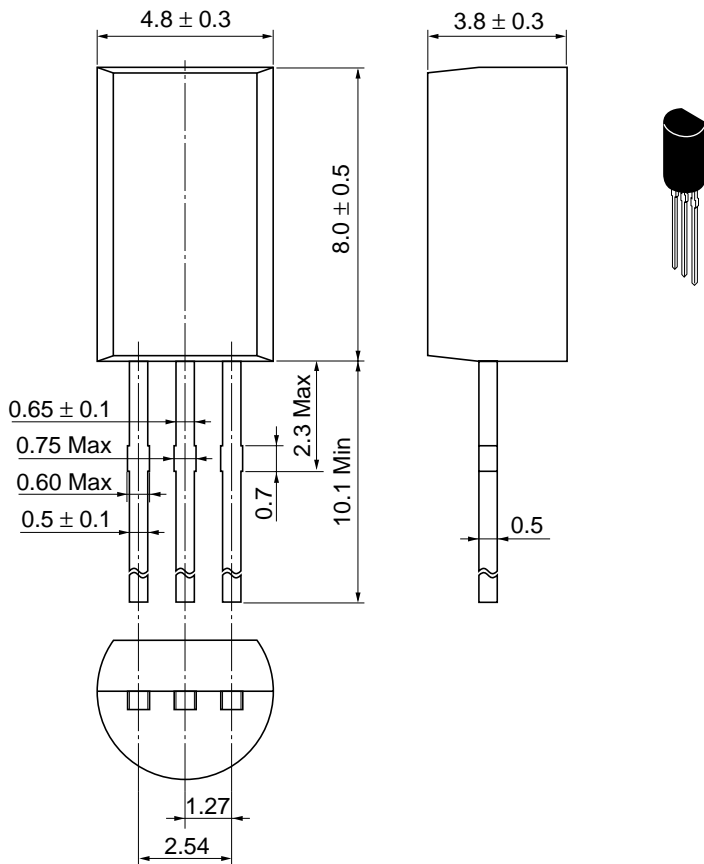


Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage





Hitachi Code	TO-92 Mod
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.35 g

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