2SD667, 2SD667A

Silicon NPN Epitaxial

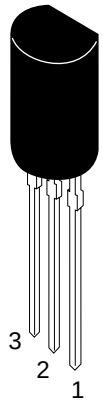
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Application

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

Outline

TO-92MOD



1. Emitter
2. Collector
3. Base

Hitachi semiconductor

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	$i_{C(peak)}$	2	2	A
Collector power dissipation	P_C	0.9	0.9	W
Junction temperature	Tj	150	150	°C
Storage temperature	Tstg	–55 to +150	–50 to +150	°C

Electrical Characteristics (Ta = 25°C)

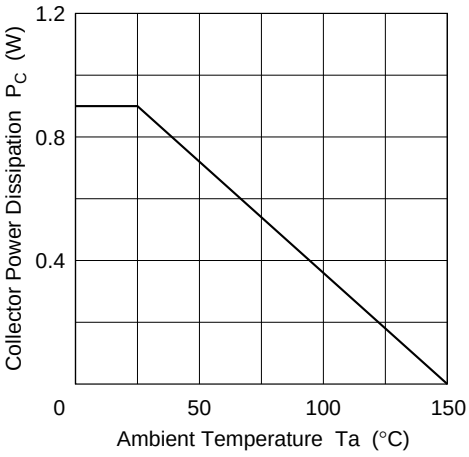
		2SD667			2SD667A				
Item	Symbol	Min	Typ	Max	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	120	—	—	120	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	80	—	—	100	—	—	V	I_C = 1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$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

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

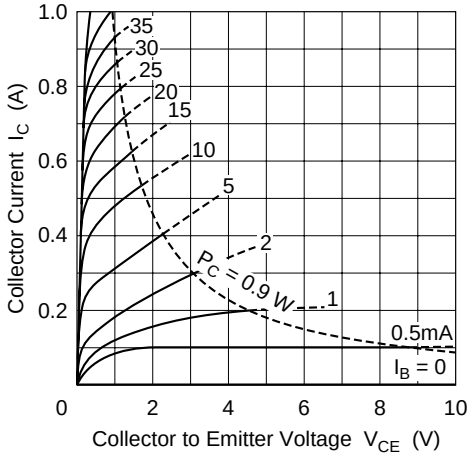
2. Pulse test

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

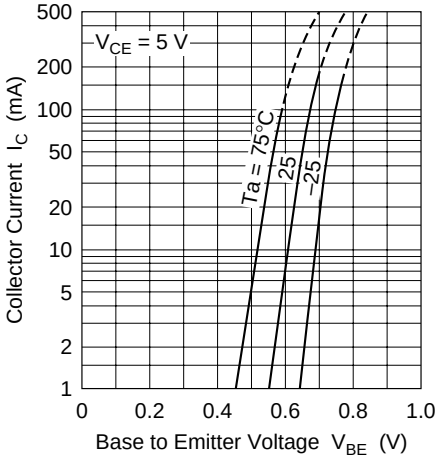
Maximum Collector Dissipation Curve



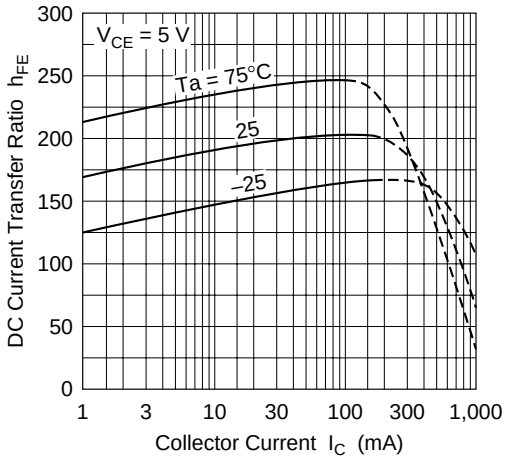
Typical Output Characteristics



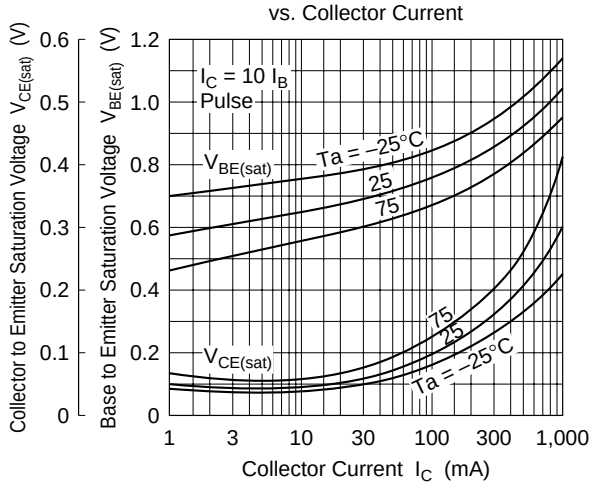
Typical Transfer Characteristics



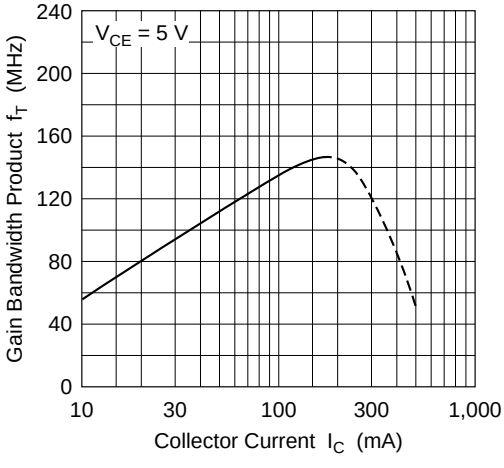
DC Current Transfer Ratio vs. Collector Current



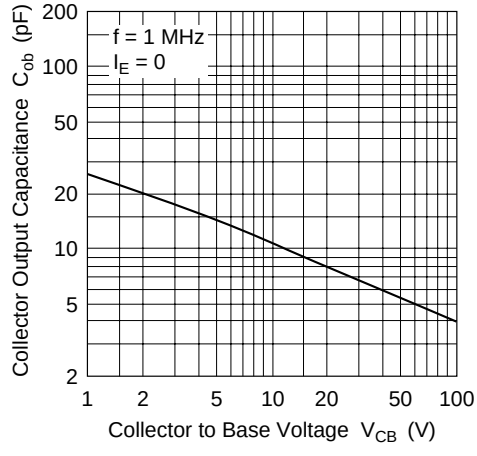
Saturation Voltage
vs. Collector Current



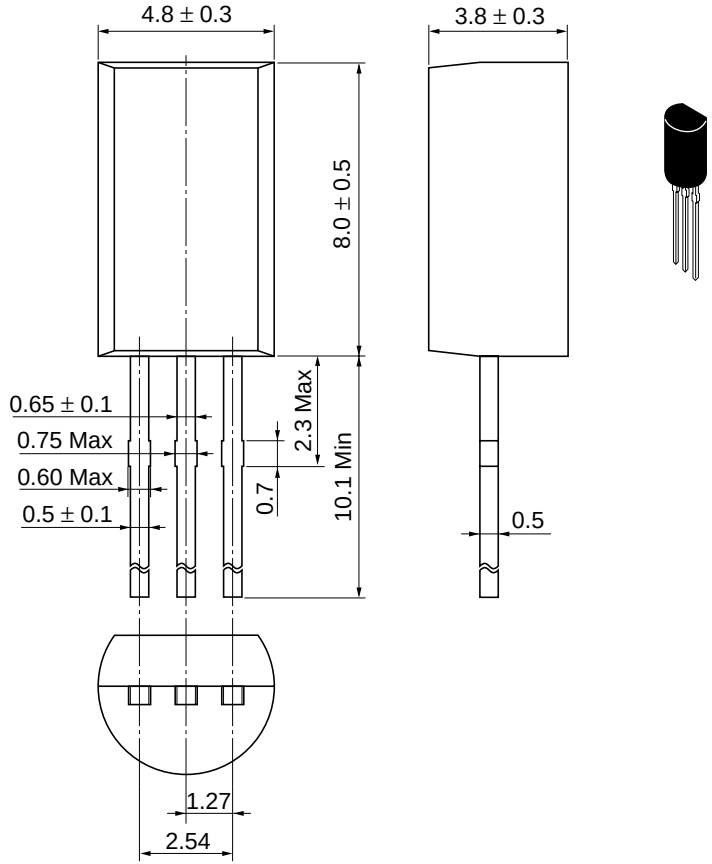
Gain Bandwidth Product
vs. Collector Current



Collector Output Capacitance vs.
Collector to Base Voltage



Unit: mm



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

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