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# 2SD1367

Silicon NPN Epitaxial

# HITACHI

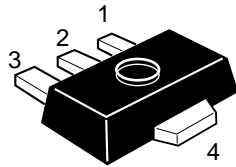
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## Application

- Low frequency power amplifier
- Complementary pair with 2SB1001

## Outline

UPAK



1. Base
2. Collector
3. Emitter
4. Collector (Flange)

## 2SD1367

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

Item	Symbol	Rated	Unit
Collector to base voltage	$V_{CBO}$	20	V
Collector to emitter voltage	$V_{CEO}$	16	V
Emitter to base voltage	$V_{EBO}$	6	V
Collector current	$I_C$	2	A
Collector peak current	$i_{C(\text{peak})}^{*1}$	3	A
Collector power dissipation	$P_C^{*2}$	1	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{\text{stg}}$	-55 to +150	°C

Notes: 1.  $PW \leq 10$  ms, Duty cycle  $\leq 20\%$ .

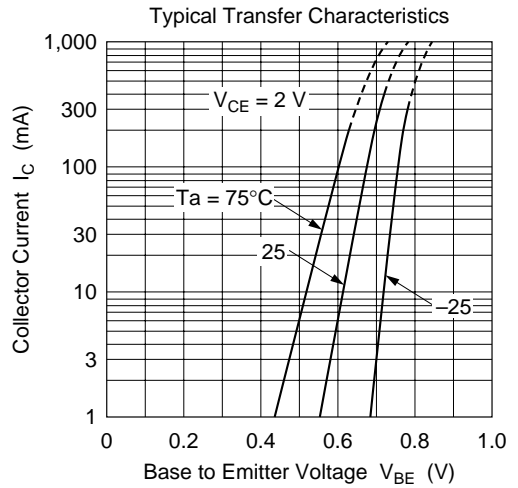
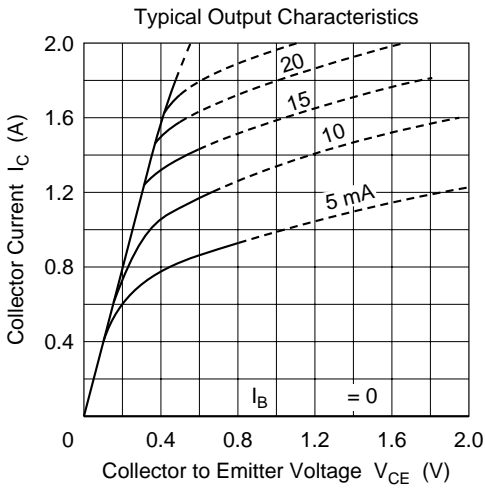
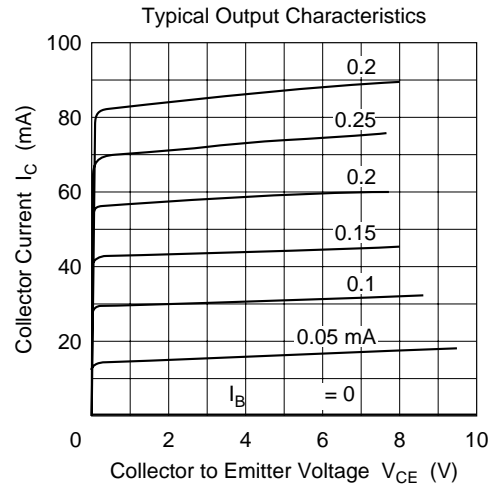
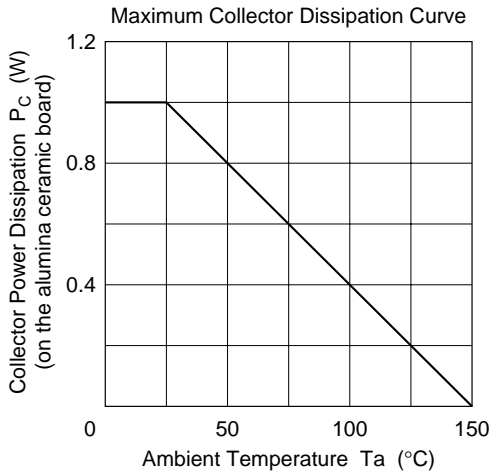
2. Value on the alumina ceramic board (12.5 × 20 × 0.7 mm)

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

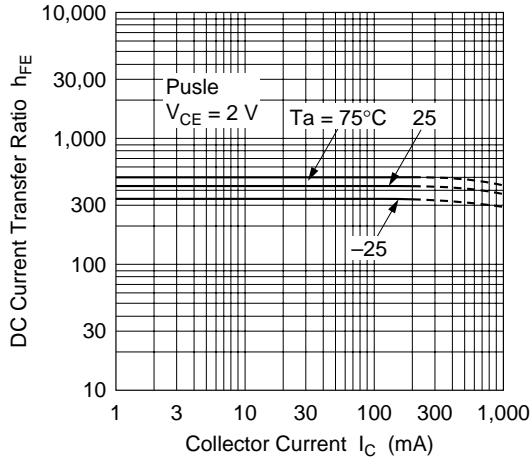
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	20	—	—	V	$I_C = 10 \mu\text{A}$ , $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	16	—	—	V	$I_C = 1 \text{ mA}$ , $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	$I_E = 10 \mu\text{A}$ , $I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	0.1	$\mu\text{A}$	$V_{CB} = 16 \text{ V}$ , $I_E = 0$
Emitter cutoff current	$I_{EBO}$	—	—	0.1	$\mu\text{A}$	$V_{EB} = 5 \text{ V}$ , $I_C = 0$
DC current transfer ratio	$h_{FE}^{*1}$	100	—	500		$V_{CE} = 2 \text{ V}$ , $I_C = 0.1 \text{ A}$ , Pulse
Collector to emitter saturation voltage	$V_{CE(\text{sat})}$	—	0.15	0.3	V	$I_C = 1 \text{ A}$ , $I_B = 0.1 \text{ A}$ , Pulse
Base to emitter saturation voltage	$V_{BE(\text{sat})}$	—	0.9	1.2	V	$I_C = 1 \text{ A}$ , $I_B = 0.1 \text{ A}$ , Pulse
Gain bandwidth product	$f_T$	—	100	—	MHz	$V_{CE} = 2 \text{ V}$ , $I_C = 10 \text{ mA}$
Collector output capacitance	$C_{ob}$	—	20	—	pF	$V_{CB} = 10 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$

Note: 1. The 2SD1367 is grouped by  $h_{FE}$  as follows.

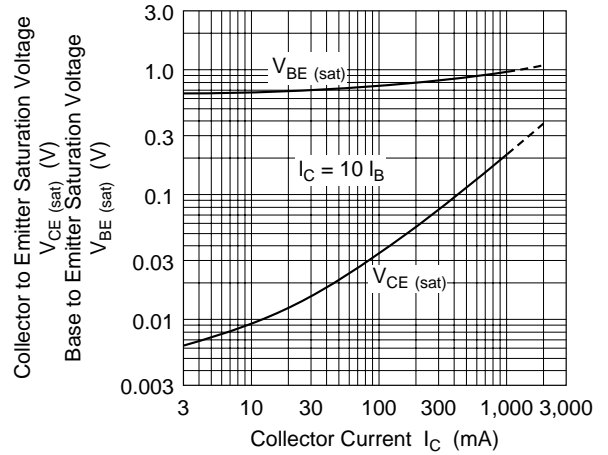
Mark	BA	BB	BC
$h_{FE}$	100 to 200	160 to 320	250 to 500



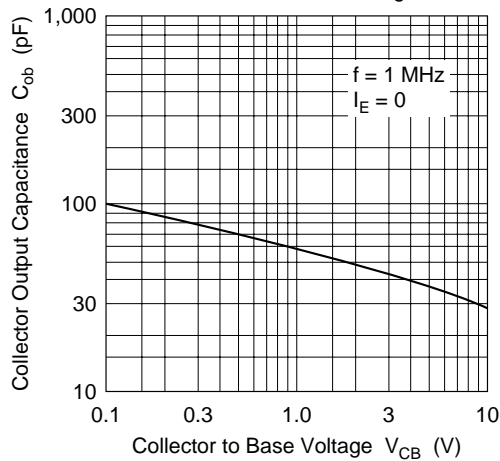
DC Current Transfer Ratio vs. Collector Current



Saturation Voltage vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage





Hitachi Code	UPAK
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.050 g

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