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# 2SD1368

Silicon NPN Epitaxial

# HITACHI

ADE-208-1148 (Z)  
1st. Edition  
Mar. 2001

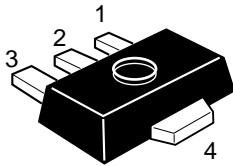
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## Application

- Low frequency power amplifier
- Complementary pair with 2SB1002

## Outline

UPAK



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

# 2SD1368

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

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	100	V
Collector to emitter voltage	$V_{CEO}$	50	V
Emitter to base voltage	$V_{EBO}$	6	V
Collector current	$I_C$	1	A
Collector peak current	$i_{C(peak)}^{*1}$	1.5	A
Collector power dissipation	$P_C^{*2}$	1	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

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

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

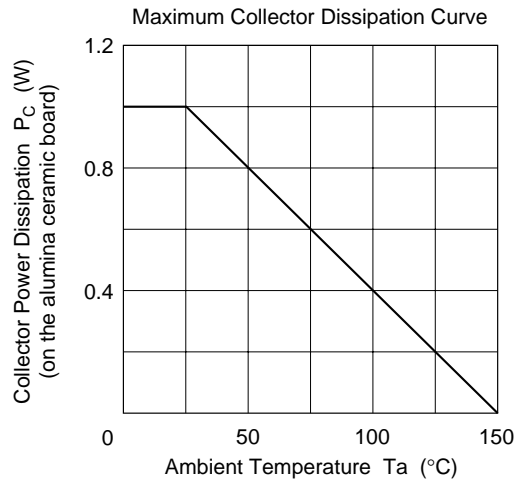
## Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	100	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	50	—	—	V	$I_C = 1$ mA, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	0.1	$\mu A$	$V_{CB} = 80$ V, $I_E = 0$
Emitter cutoff current	$I_{EBO}$	—	—	0.1	$\mu A$	$V_{EB} = 4$ V, $I_C = 0$
DC current transfer ratio	$h_{FE}^{*1}$	100	—	500		$V_{CE} = 2$ V, $I_C = 0.1$ A
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	$I_C = 1$ A, $I_B = 0.1$ A, Pulse
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.2	V	$I_C = 1$ A, $I_B = 0.1$ A, Pulse
Gain bandwidth product	$f_T$	—	100	—	MHz	$V_{CE} = 2$ V, $I_C = 10$ mA, Pulse
Collector output capacitance	$C_{ob}$	—	20	—	pF	$V_{CB} = 10$ V, $I_E = 0$ , $f = 1$ MHz

Note: 1. The 2SD1368 is grouped by  $h_{FE}$  as follows.

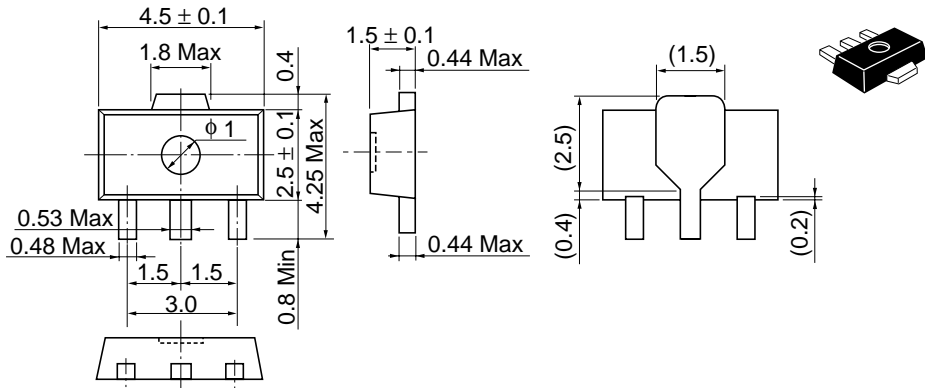
Mark	CA	CB	CC
$h_{FE}$	100 to 200	160 to 320	250 to 500

See characteristic curves of 2SD789.



## Package Dimensions

As of January, 2001  
Unit: mm



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

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