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# 2SD1366

Silicon NPN Epitaxial

# HITACHI

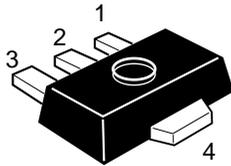
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## Application

Low frequency power amplifier

## Outline

UPAK



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

## 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	$I_C$	1	A
Collector peak current	$i_{C(\text{peak})}^{*1}$	1.5	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  $\leq 20\%$ .

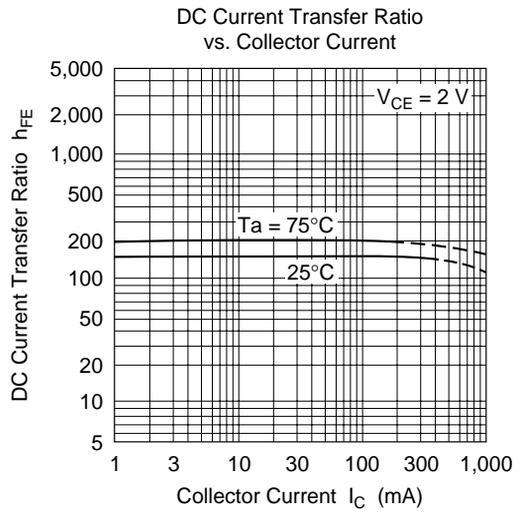
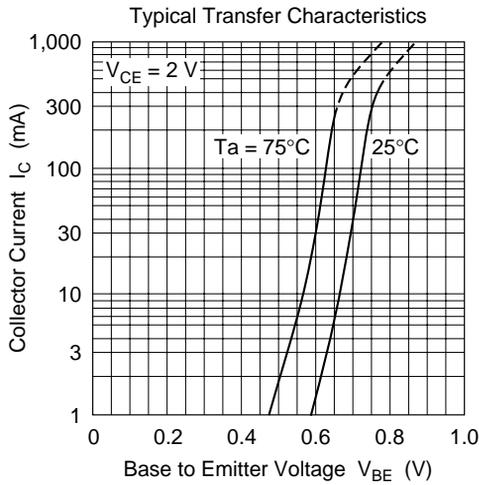
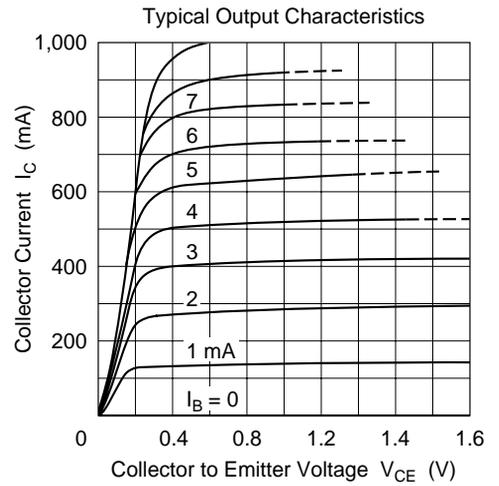
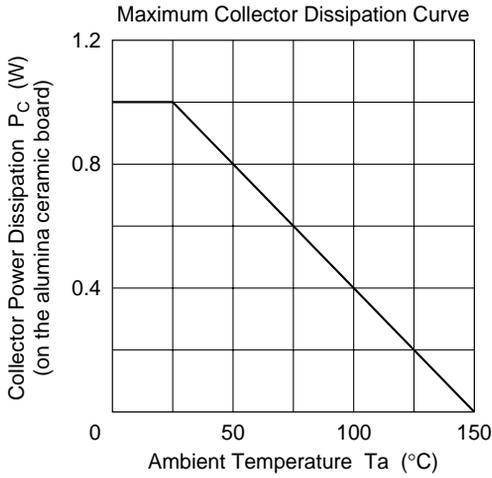
2. Value on the alumina ceramic board (12.5 × 20 × 0.7 mm)

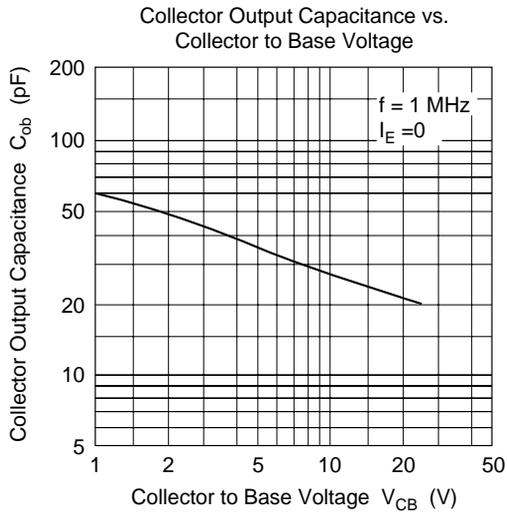
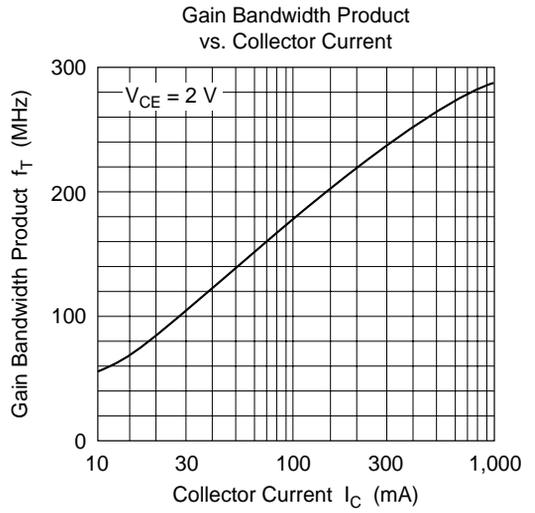
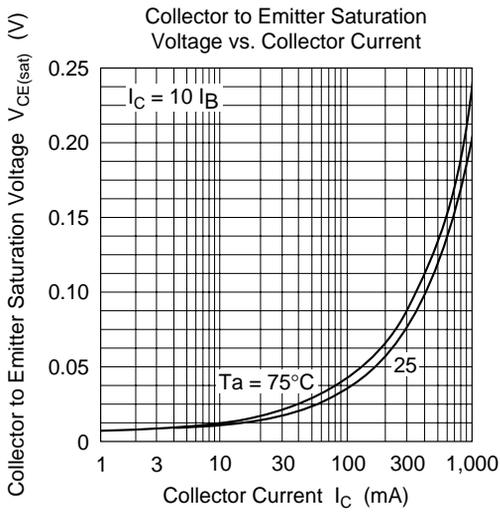
## Electrical Characteristics (Ta = 25°C)

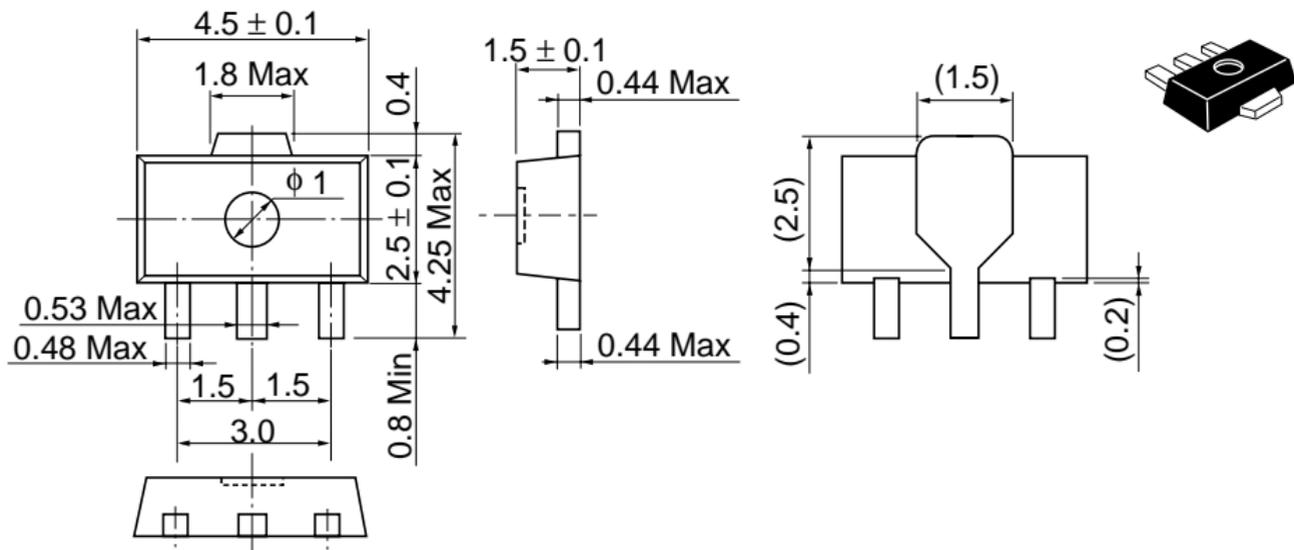
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	25	—	—	V	$I_C = 10 \mu\text{A}$ , $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	20	—	—	V	$I_C = 1 \text{ mA}$ , $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 10 \mu\text{A}$ , $I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	0.1	$\mu\text{A}$	$V_{CB} = 20 \text{ V}$ , $I_E = 0$
Emitter cutoff current	$I_{EBO}$	—	—	0.1	$\mu\text{A}$	$V_{EB} = 4 \text{ V}$ , $I_C = 0$
DC current transfer ratio	$h_{FE}^{*1}$	85	—	240		$V_{CE} = 2 \text{ V}$ , $I_C = 0.5 \text{ A}$ , Pulse
Collector to emitter saturation voltage	$V_{CE(\text{sat})}$	—	0.15	0.3	V	$I_C = 0.8 \text{ A}$ , $I_B = 0.08 \text{ A}$ , Pulse
Base to emitter saturation voltage	$V_{BE(\text{sat})}$	—	0.9	1.0	V	$I_C = 0.8 \text{ A}$ , $I_B = 0.08 \text{ A}$ , Pulse
Gain bandwidth product	$f_T$	—	240	—	MHz	$V_{CE} = 2 \text{ V}$ , $I_C = 0.5 \text{ A}$ , Pulse
Collector output capacitance	$C_{ob}$	—	22	—	pF	$V_{CB} = 10 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$

Note: 1. The 2SD1366 is grouped by  $h_{FE}$  as follows.

Mark	AA	AB
$h_{FE}$	85 to 170	120 to 240







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

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