2SD1366A

Silicon NPN Epitaxial

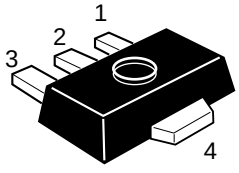
HITACHI

Application

Low frequency power amplifier

Outline

UPAK



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

Hitachi semiconductor

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	25	V
Emitter to base voltage	V_{EBO}	5	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	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Notes: 1. PW ≤ 10 ms, Duty cycle ≤ 20%.
2. Value on the alumina ceramic board (12.5 × 20 × 0.7 mm)

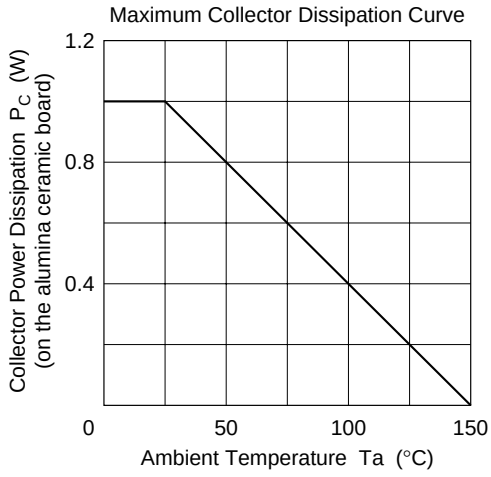
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	30	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	25	—	—	V	I_C = 1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	0.1	µA	V_{CB} = 20 V, I_E = 0
Emitter cutoff current	I_{EBO}	—		0.1	µA	V_{EB} = 4 V, I_C = 0
DC current transfer ratio	h_{FE}*[1]	85	—	240		V_{CE} = 2 V, I_C = 0.5 A, Pulse
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.15	0.3	V	I_C = 0.8 A, I_B = 0.08 A, Pulse
Base to emitter saturation voltage	$V_{BE(sat)}$	—	0.9	1.0	V	I_C = 0.8 A, I_B = 0.08 A, Pulse
Gain bandwidth product	f_T	—	240	—	MHz	V_{CE} = 2 V, I_C = 0.5 A, Pulse
Collector output capacitance	Cob	—	22	—	pF	V_{CB} = 10 V, I_E = 0, f = 1 MHz

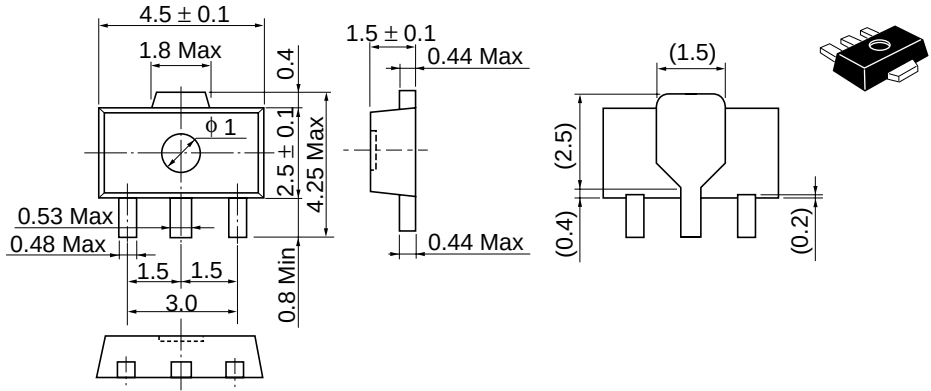
Note: 1. The 2SD1366A is grouped by h_{FE} as follows.

Mark	AC	AD
h_{FE}	85 to 170	120 to 240

See characteristic curves of 2SD1366.


Maximum Collector Dissipation Curve
Collector Power Dissipation P_C (W)
(on the alumina ceramic board)
1.2
0.8
0.4
0
50
100
150
Ambient Temperature Ta (°C)

Unit: mm



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

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