2SD1368

Silicon NPN Epitaxial

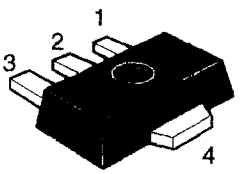
HITACHI

Application

- Low frequency power amplifier
- Complementary pair with 2SB1002

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}	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	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 x 20 x 0.7 mm)

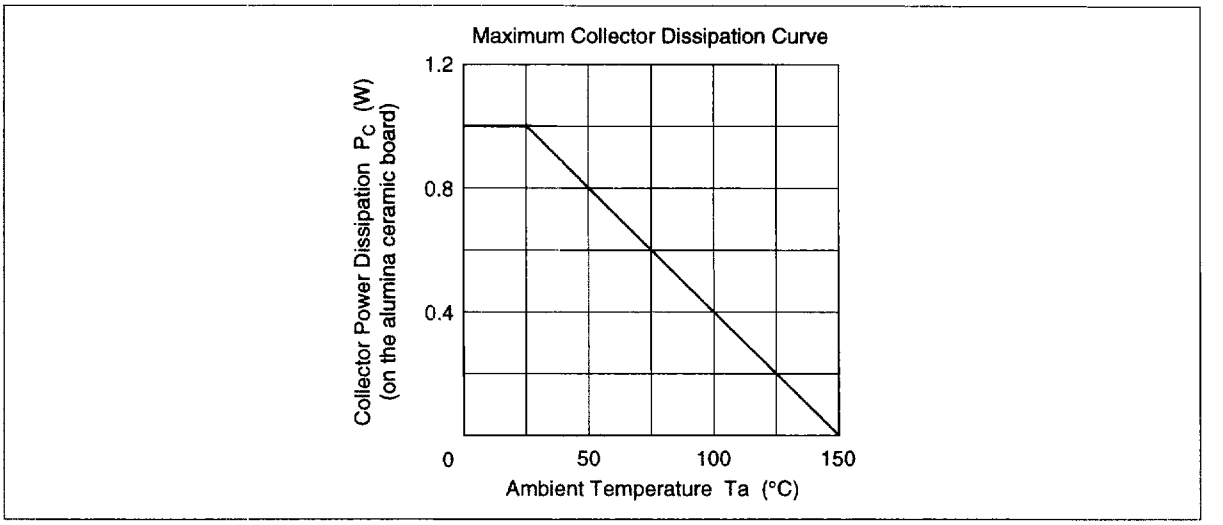
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	100	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	50	—	—	V	I_C = 1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	0.1	µA	V_{CB} = 80 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	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	Cob	—	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 200	250 to 500

See characteristic curves of 2SD789.


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)