
2SD1368

Silicon NPN Epitaxial

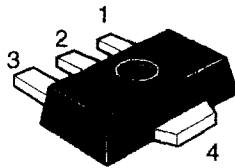
HITACHI

Application

- Low frequency power amplifier
- Complementary pair with 2SB1002

Outline

UPAK



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

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

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	$i_{\text{C(peak)}}^{*1}$	1.5	A
Collector power dissipation	P_{C}^{*2}	1	W
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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 ($T_a = 25^\circ\text{C}$)

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

