
2SB1001

Silicon PNP Epitaxial

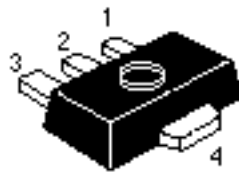
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Application

- Low frequency power amplifier
- Complementary pair with 2SD1367

Outline

UPAK



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

2SB1001

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	-20	V
Collector to emitter voltage	V_{CEO}	-16	V
Emitter to base voltage	V_{EBO}	-6	V
Collector current	I_C	-2	A
Collector peak current	$i_{C(peak)}^{*1}$	-3	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 10 ms, Duty cycle 20%

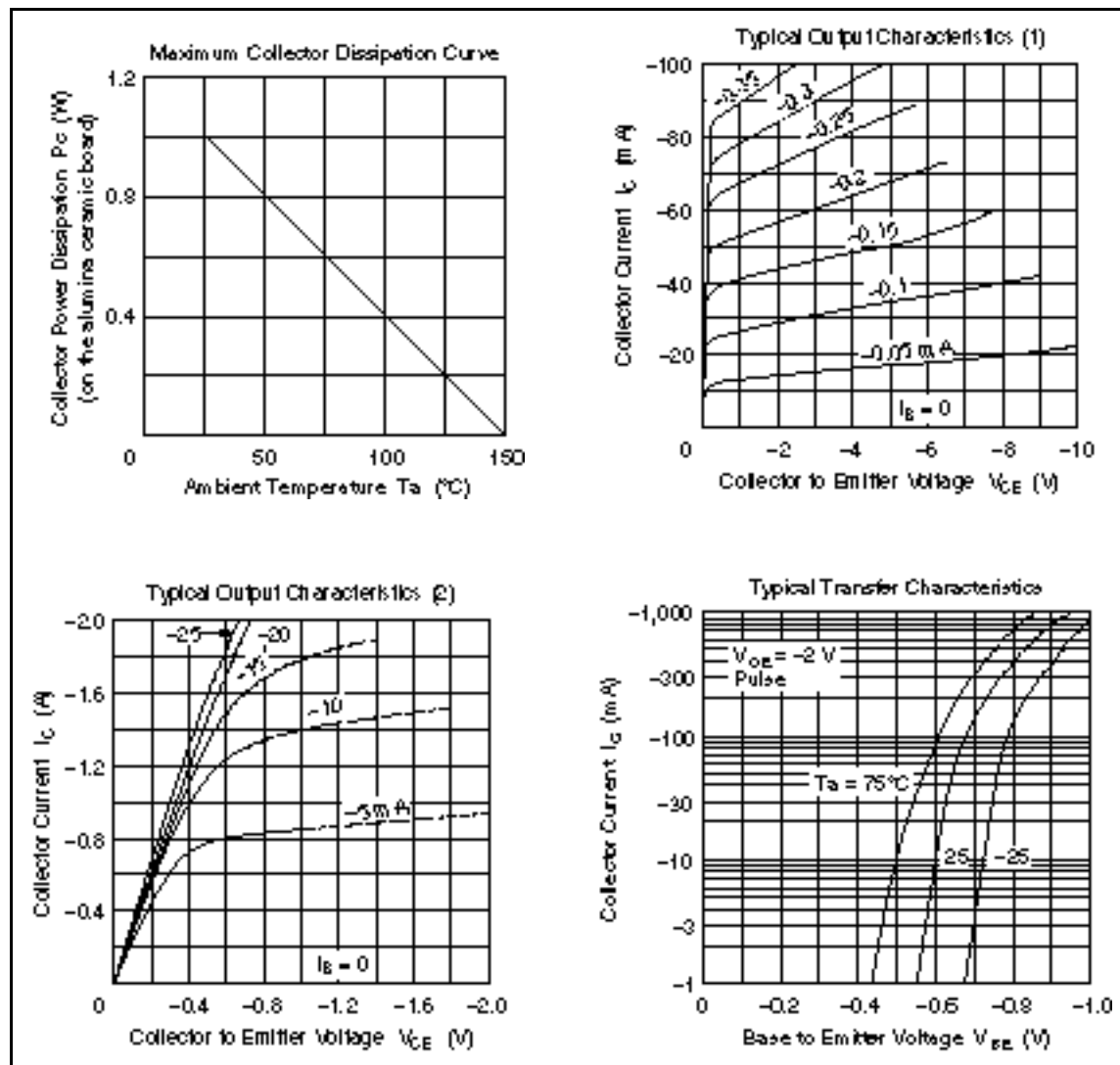
2. Value on the alumina ceramic board (12.5 × 20 × 0.7 mm)

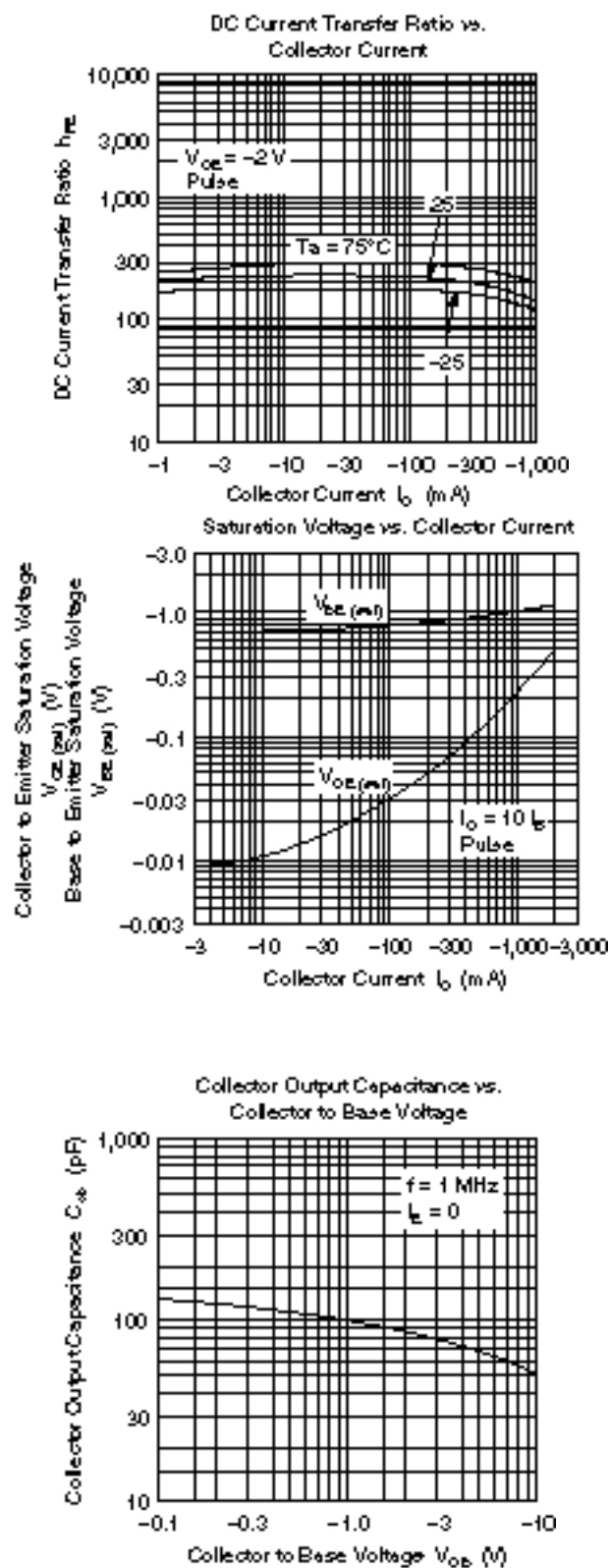
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-20	—	—	V	$I_C = -10 \mu A$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-16	—	—	V	$I_C = -1 \text{ mA}$, $R_{BE} =$
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	μA	$V_{CB} = -16 \text{ V}$, $I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	-0.1	μA	$V_{EB} = -5 \text{ V}$, $I_C = 0$
DC current transfer ratio	h_{FE}^{*1}	100	—	320		$V_{CE} = -2 \text{ V}$, $I_C = -0.1 \text{ A}$ (Pulse test)
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	-0.15	-0.3	V	$I_C = -1 \text{ A}$, $I_B = -0.1 \text{ A}$ (Pulse test)
Base to emitter saturation voltage	$V_{BE(sat)}$	—	-1.0	-1.2	V	$I_C = -1 \text{ A}$, $I_B = -0.1 \text{ A}$ (Pulse test)
Gain bandwidth product	f_T	—	150	—	MHz	$V_{CE} = -2 \text{ V}$, $I_C = -10 \text{ mA}$
Collector output capacitance	C_{ob}	—	50	—	pF	$V_{CB} = -10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$

Note: 1. The 2SB1001 is grouped by h_{FE} as follows.

Mark	BH	BJ
h_{FE}	100 to 200	160 to 320





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