
2SB1025

Silicon PNP Epitaxial

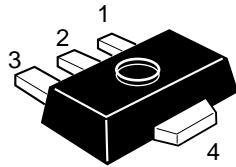
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Application

- Low frequency power amplifier
- Complementary pair with 2SD1418

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}	-120	V
Collector to emitter voltage	V_{CEO}	-80	V
Emitter to base voltage	V_{EBO}	-5	V
Collector current	I_C	-1	A
Collector peak current	$i_{C(peak)}^{*1}$	-2	A
Collector power dissipation	P_C^{*2}	1	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

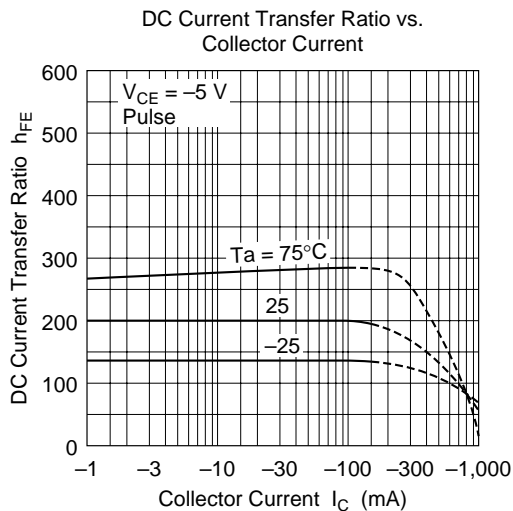
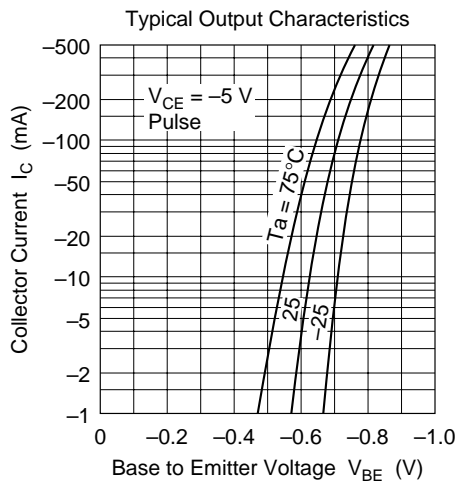
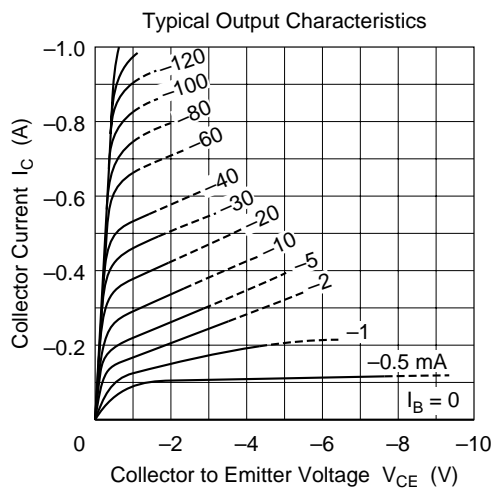
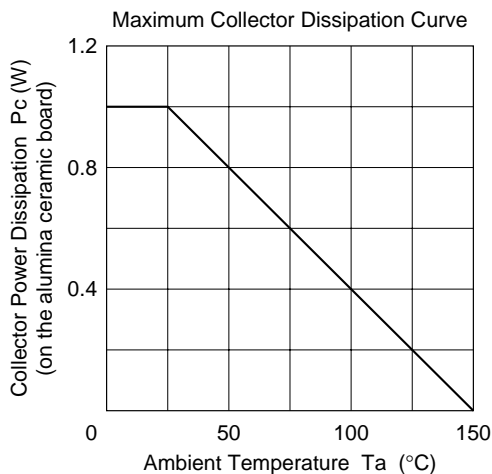
Notes: 1. $PW \leq 10\text{ ms}$, Duty cycle $\leq 20\%$
2. Value on the alumina ceramic board ($12.5 \times 20 \times 0.7\text{ mm}$)

Electrical Characteristics (Ta = 25°C)

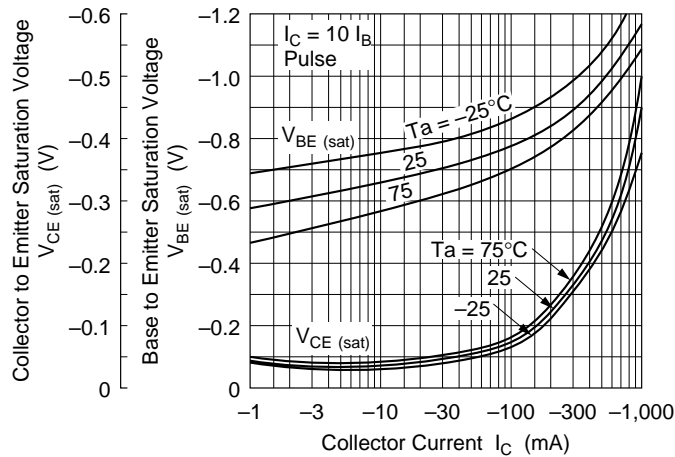
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-120	—	—	V	$I_C = -10\text{ }\mu\text{A}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-80	—	—	V	$I_C = -1\text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	V	$I_E = -10\text{ }\mu\text{A}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-10	μA	$V_{CB} = -100\text{ V}$, $I_E = 0$
DC current transfer ratio	h_{FE1}^{*1}	60	—	320		$V_{CE} = -5\text{ V}$, $I_C = -150\text{ mA}$
	h_{FE2}	30	—	—		$V_{CE} = -5\text{ V}$, $I_C = -500\text{ mA}$ (Pulse test)
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-1	V	$I_C = -500\text{ mA}$, $I_B = -50\text{ mA}$ (Pulse test)
Base to emitter voltage	V_{BE}	—	—	-0.9	V	$V_{CE} = -5\text{ V}$, $I_C = -150\text{ mA}$
Gain bandwidth product	f_T	—	140	—	MHz	$V_{CE} = -5\text{ V}$, $I_C = -150\text{ mA}$
Collector output capacitance	C_{ob}	—	20	—	pF	$V_{CB} = -10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$

Note: 1. The 2SB1025 is grouped by h_{FE1} as follows.

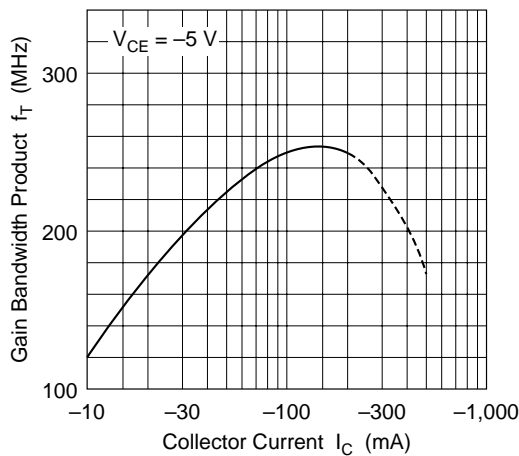
Mark	DH	DJ	DK
h_{FE1}	60 to 120	100 to 200	160 to 320



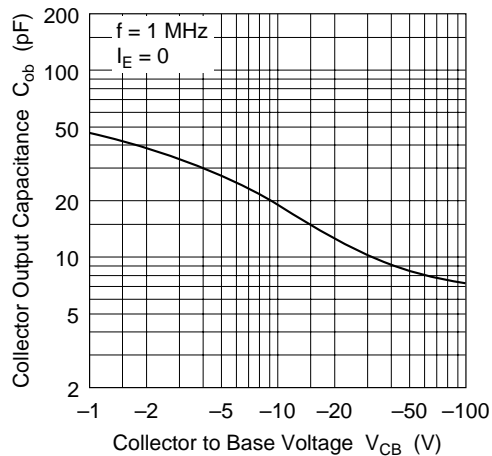
Saturation Voltage vs. Collector Current

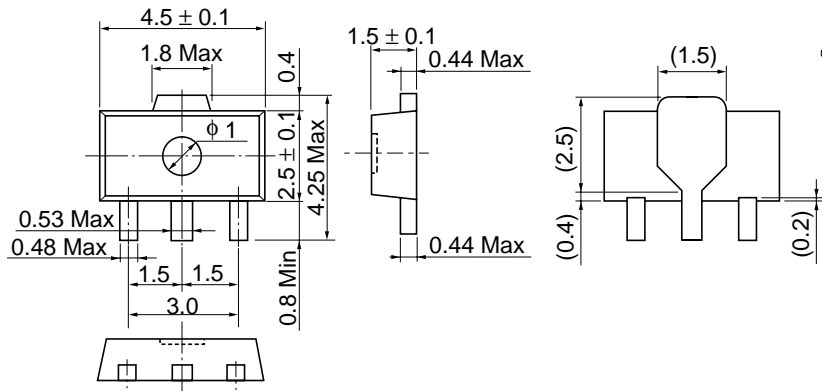


Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage





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

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