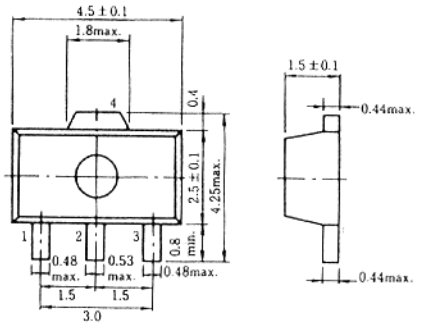
HITACHI

2SB1025

SILICON PNP EPITAXIAL

LOW FREQUENCY POWER AMPLIFIER
Complementary pair with 2SD1418



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

(Dimensions in mm)

(UPAK)

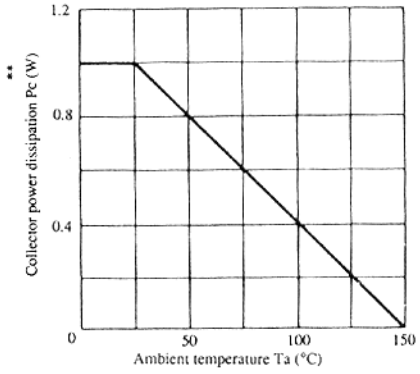
■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SB1025	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	$i_{C(peak)}$*	−2	A
Collector power dissipation	P_C**	1	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

* PW ≤ 10ms, Duty cycle ≤ 20%

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

MAXIMUM COLLECTOR DISSIPATION CURVE



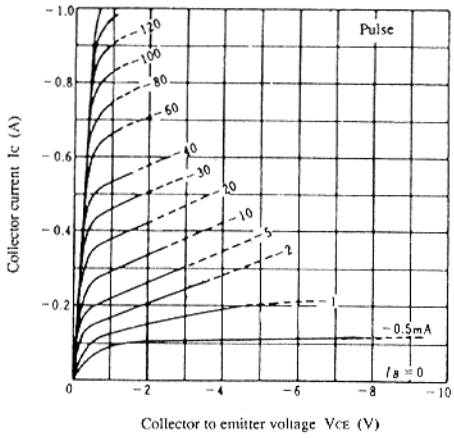
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

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

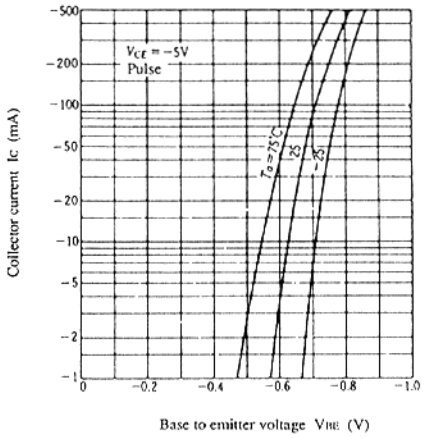
* The 2SB1025 is grouped by h_{FE1} as follows.

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

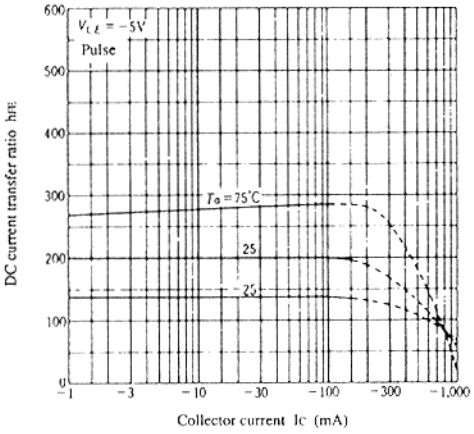
TYPICAL OUTPUT CHARACTERISTICS



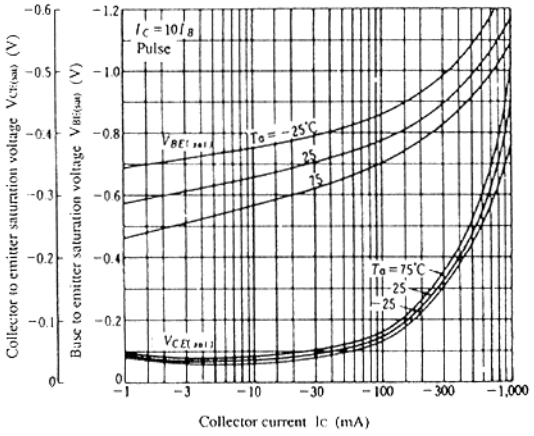
TYPICAL TRANSFER CHARACTERISTICS



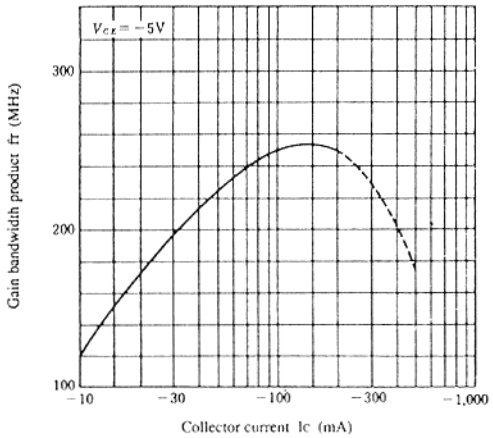
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT VS. COLLECTOR CURRENT



COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE

