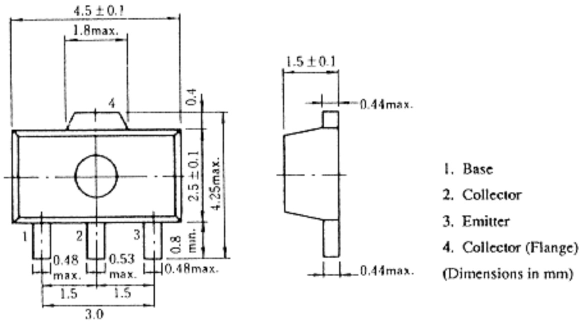
2SB1028

SILICON PNP EPITAXIAL

LOW FREQUENCY POWER AMPLIFIER



(UPAK)

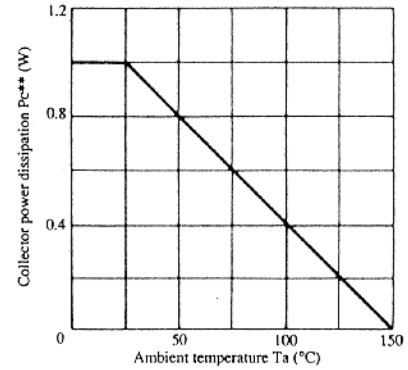
■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SB1028	Unit
Collector to base voltage	V_{CBO}	−180	V
Collector to emitter voltage	V_{CEO}	−160	V
Emitter to base voltage	V_{EBO}	−5	V
Collector current	I_C	−1.5	A
Collector peak current	$i_{C(peak)}$*	−3	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



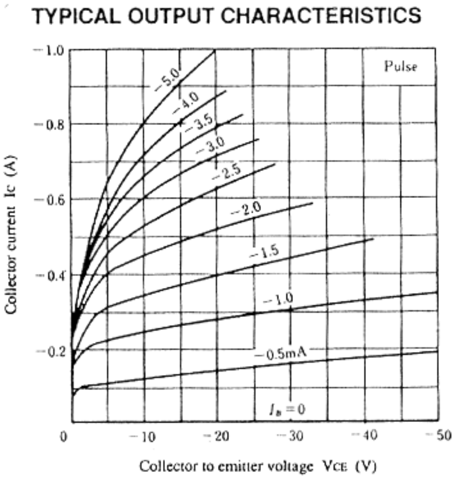
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

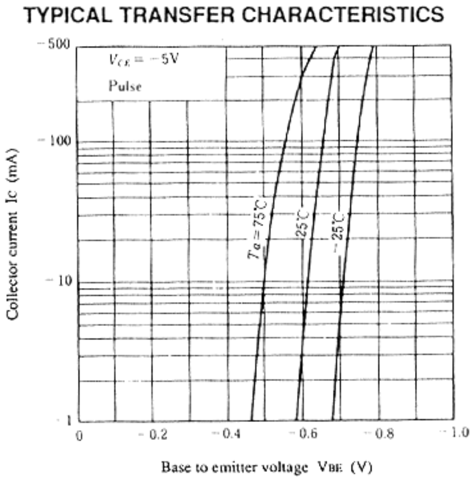
Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to base breakdown voltage	$V_{(BR)CBO}$	$I_C = -1mA$, $I_E = 0$	−180	—	—	V
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10mA$, $R_{BE} = \infty$	−160	—	—	V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	$I_E = -1mA$, $I_C = 0$	−5	—	—	V
Collector cutoff current	I_{CBO}	$V_{CB} = -160V$, $I_E = 0$	—	—	−10	μA
DC current transfer ratio	h_{FE1}*	$V_{CE} = -5V$, $I_C = -0.15A$, pulse	60	—	200	
	h_{FE2}	$V_{CE} = -5V$, $I_C = -0.5A$, pulse	30	—	—	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -0.5A$, $I_B = -50mA$, pulse	—	—	−1.0	V
Base to emitter voltage	V_{BE}	$I_{CE} = -5V$, $I_C = -0.15A$, pulse	—	—	−0.9	V

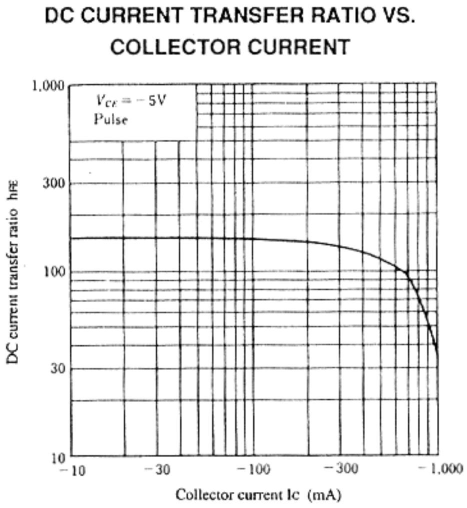
* The 2SB1028 is grouped by h_{FE1} as follows.

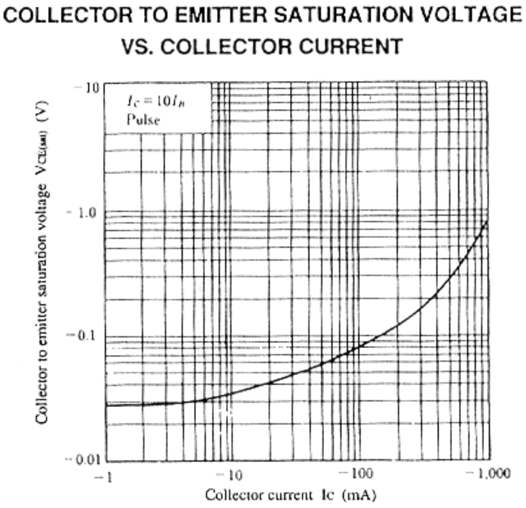
Mark	EL	EM
h_{FE1}	60 to 120	100 to 200

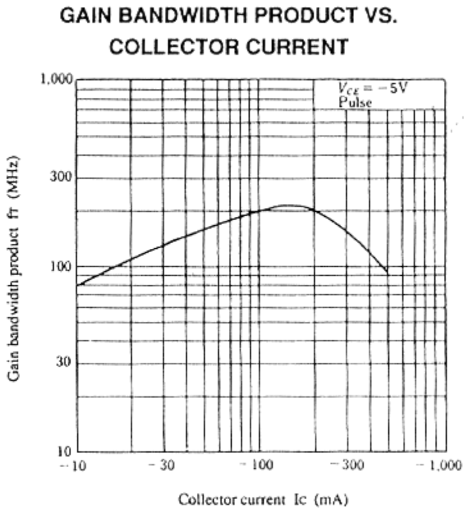
2SB1028

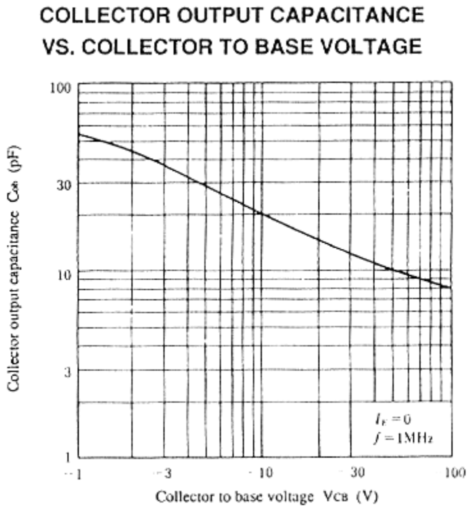

TYPICAL OUTPUT CHARACTERISTICS


TYPICAL TRANSFER CHARACTERISTICS


DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT


COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT


GAIN BANDWIDTH PRODUCT VS. COLLECTOR CURRENT


COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE