

2SB1409(L/S)

Silicon PNP Epitaxial
Low Frequency Power Amplifier
Complementary Pair with 2SD2123 (L/S)

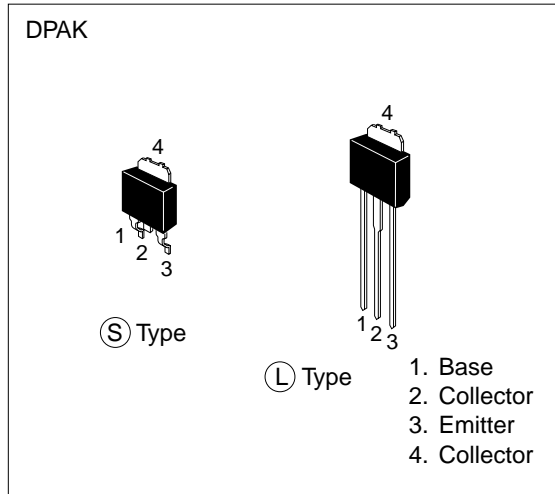
Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	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}	18	W
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Note: 1. Value at T_C = 25°C.

Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to base breakdown voltage	V _{(BR)CBO}	-180	—	—	V	I _C = -1 mA, I _E = 0
Collector to emitter breakdown voltage	V _{(BR)CEO}	-160	—	—	V	I _C = -10 mA, R _{BE} = ∞
Emitter to base breakdown voltage	V _{(BR)EBO}	-5	—	—	V	I _E = -1 mA, I _C = 0
Collector cutoff current	I _{CBO}	—	—	-10	μA	V _{CB} = -160 V, I _E = 0
DC current transfer ratio	h _{FE1} ^{*1}	60	—	200		V _{CE} = -5 V, I _C = -150 mA ^{*2}
	h _{FE2}	30	—	—		V _{CE} = -5 V, I _C = -500 mA ^{*2}
Collector to emitter saturation voltage	V _{CE(sat)}	—	—	-1	V	I _C = -500 mA, I _B = -50 mA
Base to emitter voltage	V _{BE}	—	—	-1.5	V	V _{CE} = -5 V, I _C = -150 mA
Gain bandwidth product	f _T	—	240	—	MHz	V _{CE} = -5 V, I _C = -150 mA



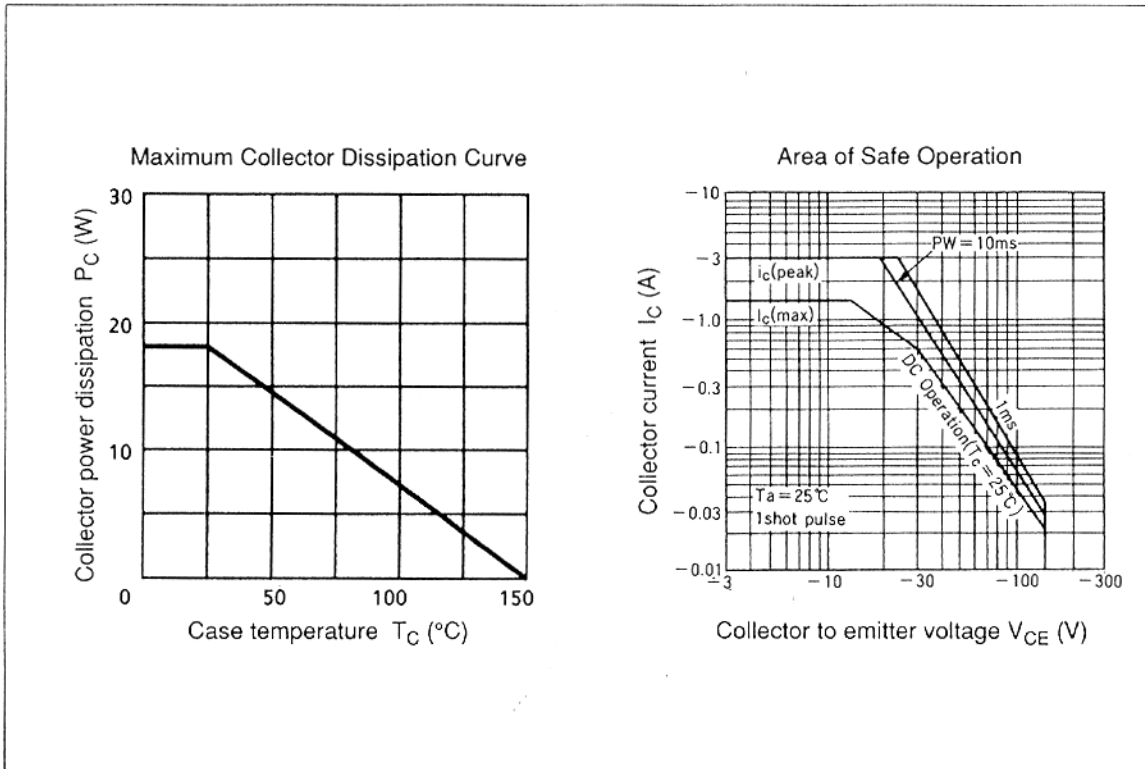
Electrical Characteristics (Ta = 25°C) (cont)

Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector output capacitance	Cob	—	25	—	pF	V _{CB} = -10 V, I _E = 0, f = 1 MHz

Notes: 1. The 2SB1409 (L)/(S) is grouped by h_{FE1} as follows.

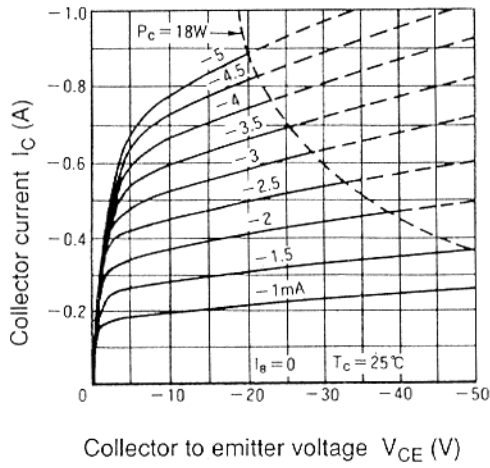
B	C
60 to 120	100 to 200

2. Pulse Test.

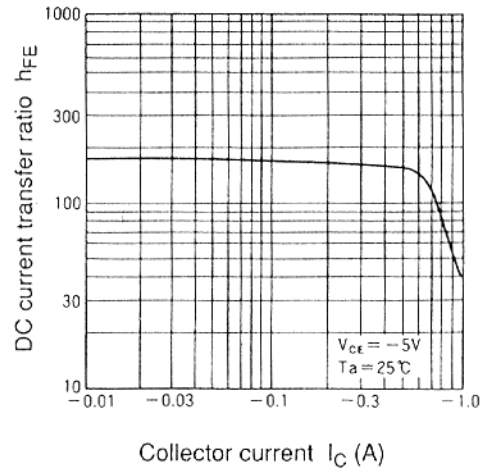


2SB1409 (L/S)

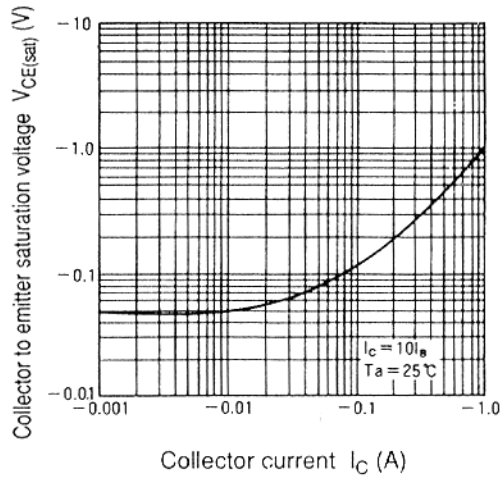
Typical Output Characteristics



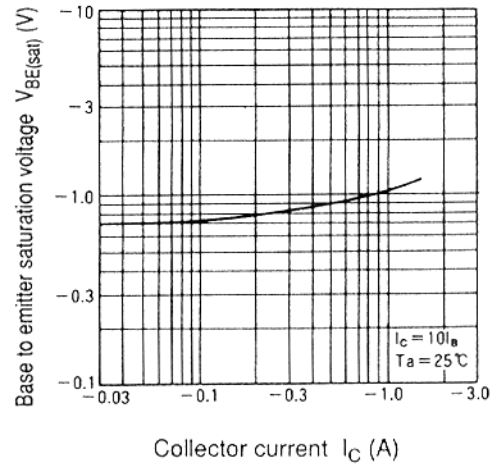
DC Current Transfer Ratio vs. Collector Current



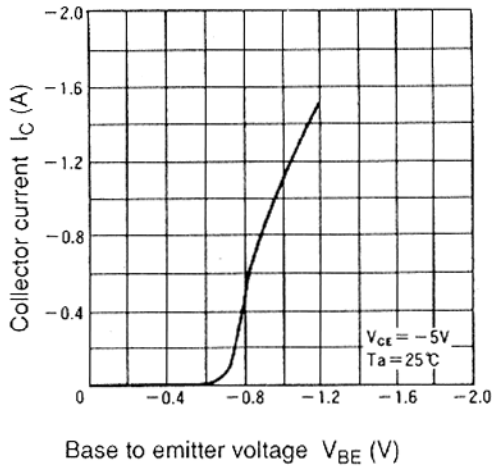
Saturation Voltage vs. Collector Current



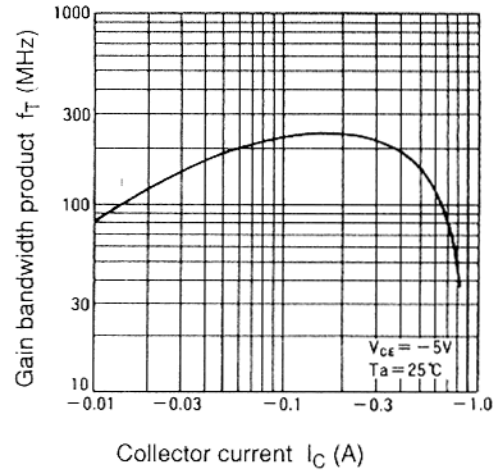
Saturation Voltage vs. Collector Current



Typical Transfer Characteristics



Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage

