
2SB1409(L)/(S)

Silicon PNP Epitaxial

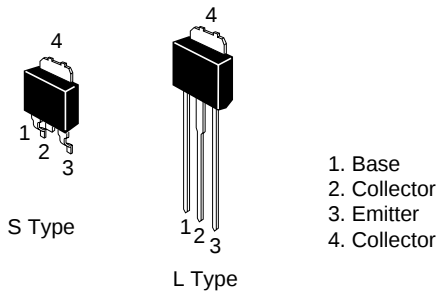
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Application

Low frequency power amplifier complementary Pair with 2SD2123(L)/(S)

Outline

DPAK



2SB1409(L)/(S)

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	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 $T_C = 25^{\circ}C$.

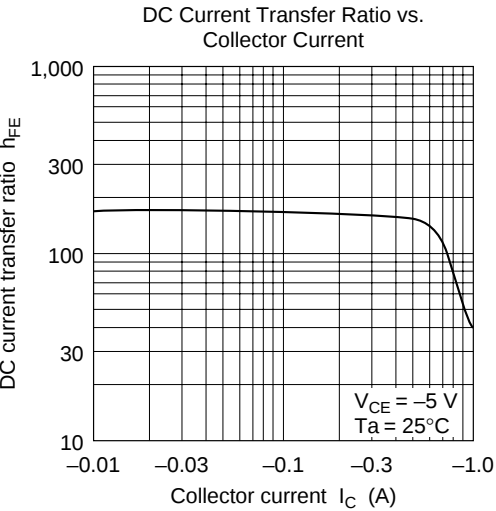
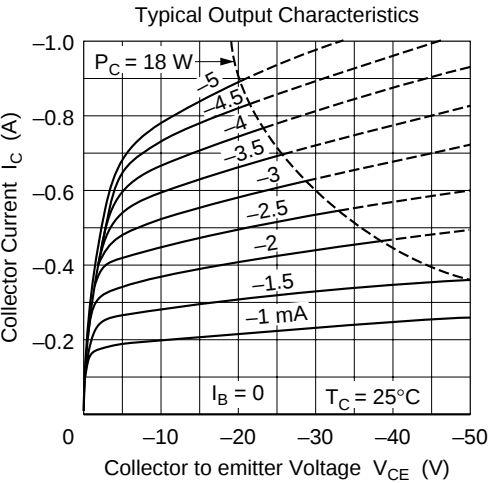
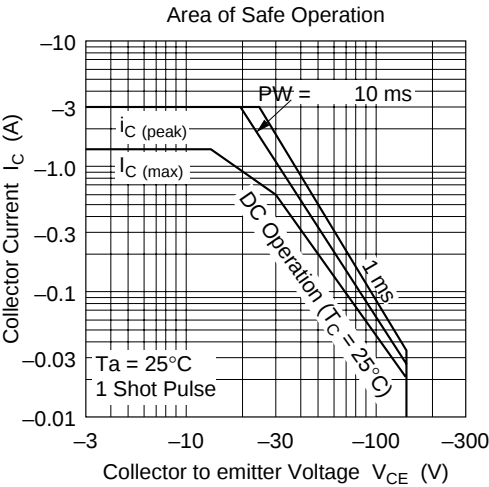
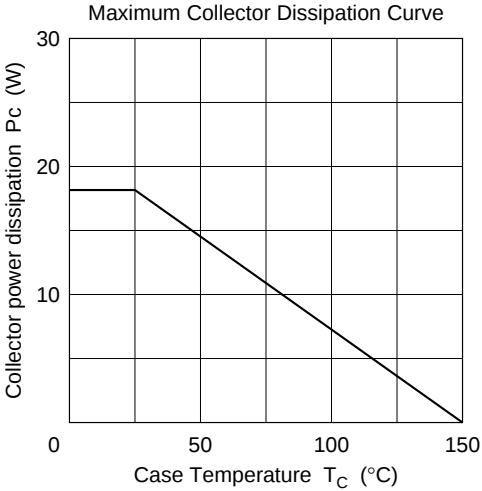
Electrical Characteristics (Ta = 25°C)

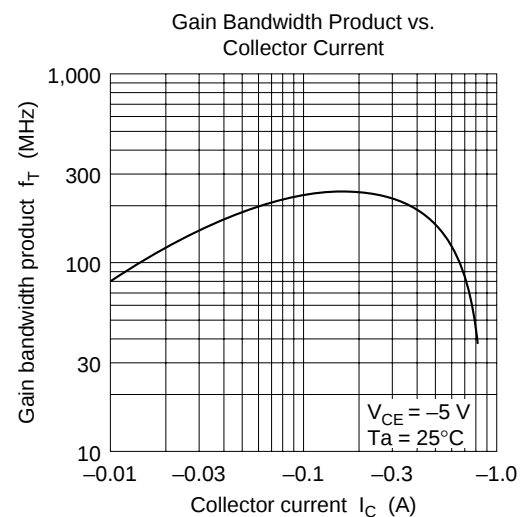
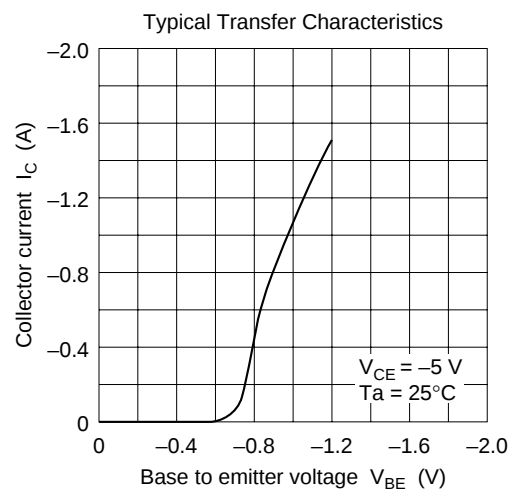
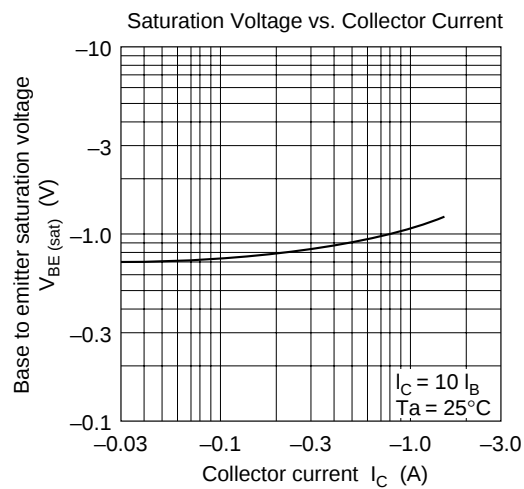
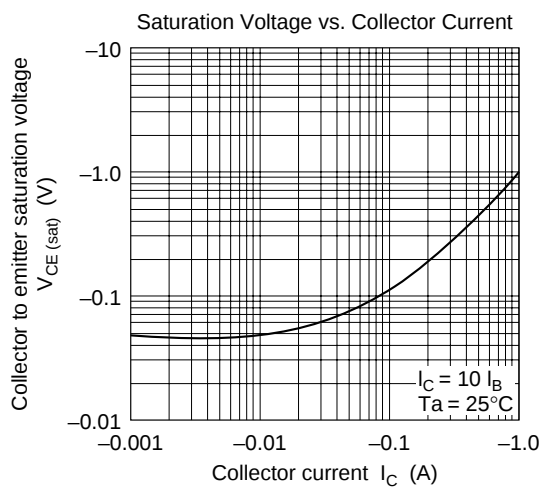
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	−180	—	—	V	$I_C = -1\text{ mA}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	−160	—	—	V	$I_C = -10\text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	−5	—	—	V	$I_E = -1\text{ mA}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	−10	μA	$V_{CB} = -160\text{ V}$, $I_E = 0$
DC current transfer ratio	h_{FE1}^{*1}	60	—	200		$V_{CE} = -5\text{ V}$, $I_C = -150\text{ mA}^{*2}$
	h_{FE2}	30	—	—		$V_{CE} = -5\text{ V}$, $I_C = -500\text{ mA}^{*2}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	−1	V	$I_C = -500\text{ mA}$, $I_B = -50\text{ mA}$
Base to emitter voltage	V_{BE}	—	—	−1.5	V	$V_{CE} = -5\text{ V}$, $I_C = -150\text{ mA}$
Gain bandwidth product	f_T	—	240	—	MHz	$V_{CE} = -5\text{ V}$, $I_C = -150\text{ mA}$
Collector output capacitance	C_{ob}	—	25	—	pF	$V_{CB} = -10\text{ A}$, $I_E = 0$, $f = 1\text{ MHz}$

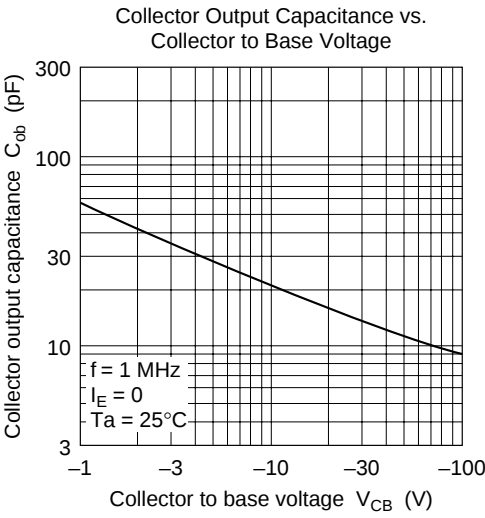
Notes: 1. The 2SB1409(L)/(S) is grouped by h_{FE1} as follows.

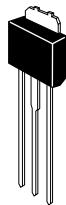
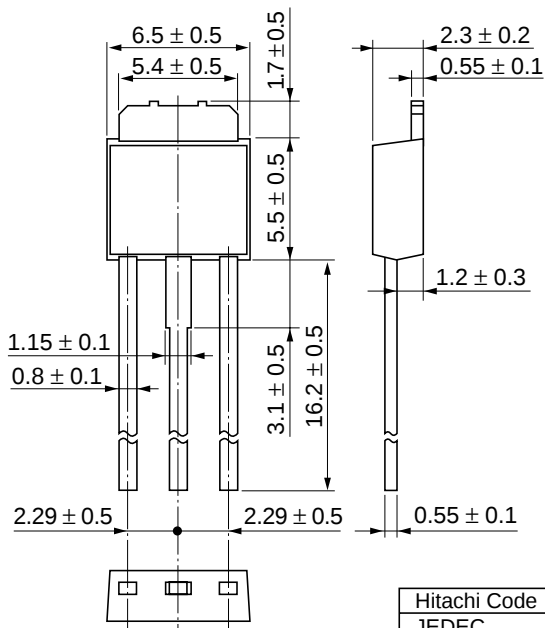
B	C
60 to 120	100 to 200

2. Pulse test.









Hitachi Code	DPAK (L)-(1)
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.42 g

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