
2SD2122(L)/(S), 2SD2123(L)/(S)

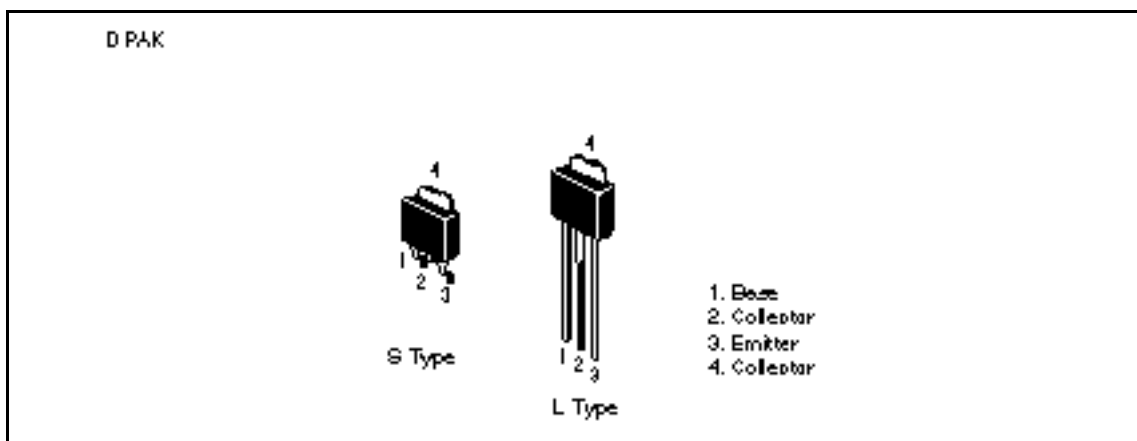
Silicon NPN Epitaxial

HITACHI

Application

Low frequency power amplifier complementary pair with 2SB1409(L)/(S)

Outline



2SD2122(L)/(S), 2SD2123(L)/(S)

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings		Unit
		2SD2122(L)/(S)	2SD2123(L)/(S)	
Collector to base voltage	V_{CBO}	180	180	V
Collector to emitter voltage	V_{CEO}	120	160	V
Emitter to base voltage	V_{EBO}	5	5	V
Collector current	I_C	1.5	1.5	A
Collector peak current	$I_{C(peak)}$	3	3	A
Collector power dissipation	P_C^{*1}	18	18	W
Junction temperature	T_j	150	150	°C
Storage temperature	T_{stg}	-55 to +150	-55 to +150	°C

Note: 1. Value at $T_C = 25^\circ\text{C}$.

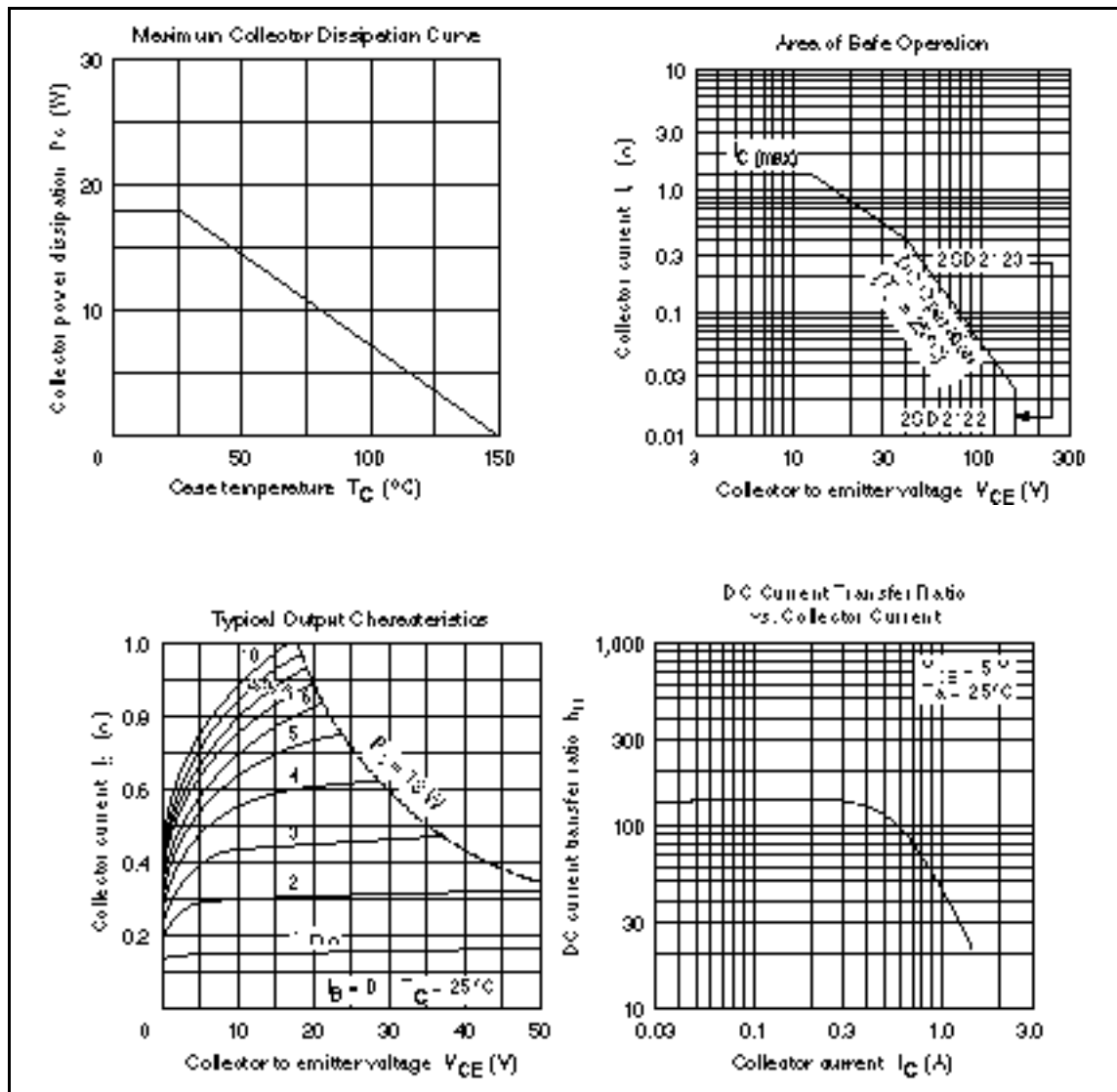
Electrical Characteristics (Ta = 25°C)

Item	Symbol	2SD2122(L)/(S)			2SD2123(L)/(S)			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	180	—	—	180	—	—	V	$I_C = 1\text{ mA}, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	160	—	—	V	$I_C = 10\text{ mA}, R_{BE} =$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	5	—	—	V	$I_E = 1\text{ mA}, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	10	—	—	10	μA	$V_{CB} = 160\text{ V}, I_E = 0$
DC current transfer ratio	h_{FE1}^{*2}	60	—	200	60	—	200	A	$V_{CE} = 5\text{ V}, I_C = 150\text{ mA}^{*1}$
	h_{FE2}	30	—	—	30	—	—		$V_{CE} = 5\text{ V}, I_C = 500\text{ mA}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1	—	—	1	V	$I_C = 500\text{ mA}, I_B = 50\text{ mA}^{*1}$
Base to emitter voltage	V_{BE}	—	—	1.5	—	—	1.5	V	$V_{CE} = 5\text{ V}, I_C = 150\text{ mA}^{*1}$
Gain bandwidth product	f_T	—	180	—	—	180	—	MHz	$V_{CE} = 5\text{ V}, I_C = 150\text{ mA}^{*1}$
Collector output capacitance	C_{ob}	—	14	—	—	14	—	pF	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$

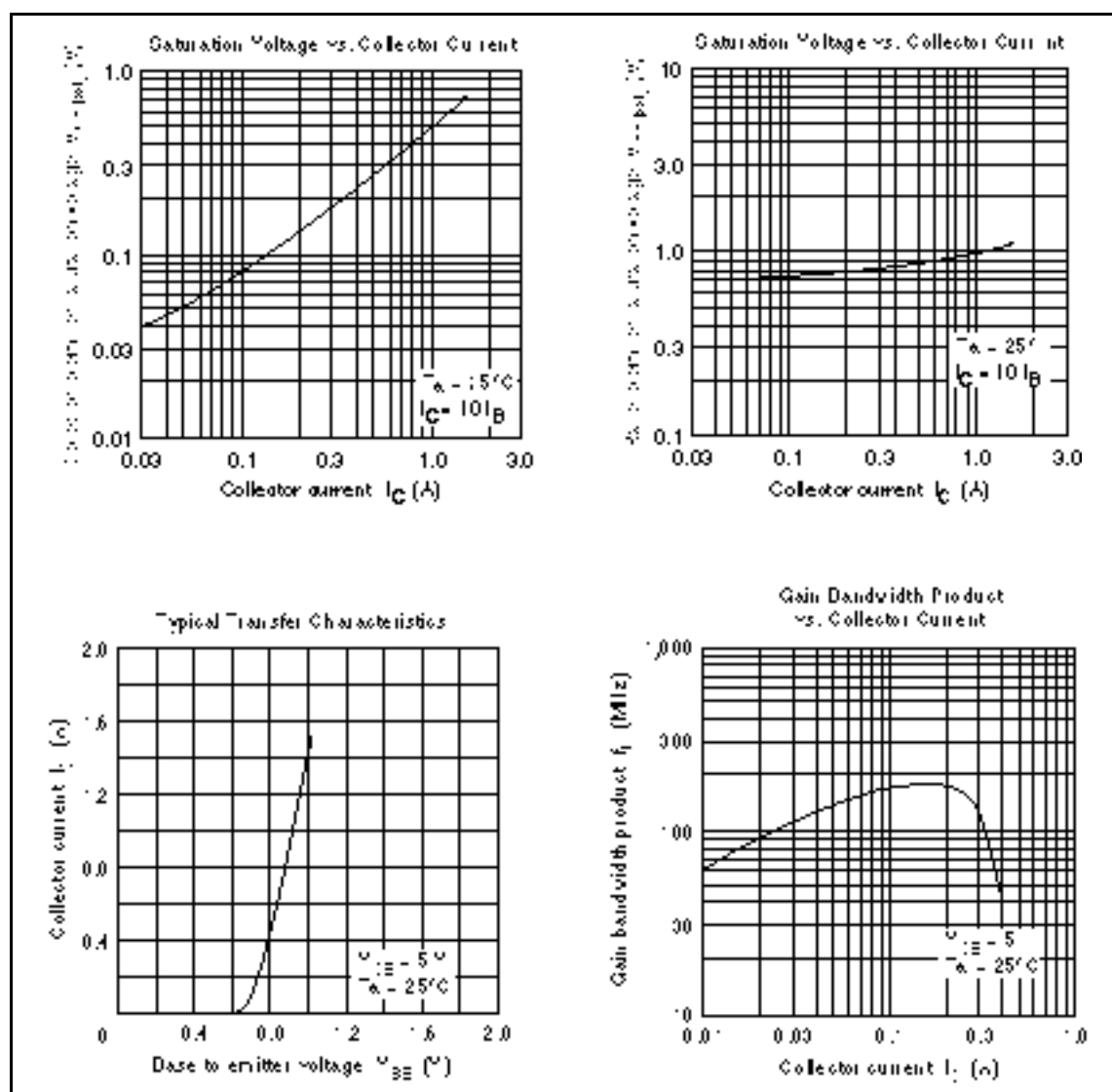
Notes: 1. Pulse test

2. The 2SD2122(L)/(S) and 2SD2123(L)/(S) are grouped by h_{FE1} as follows.

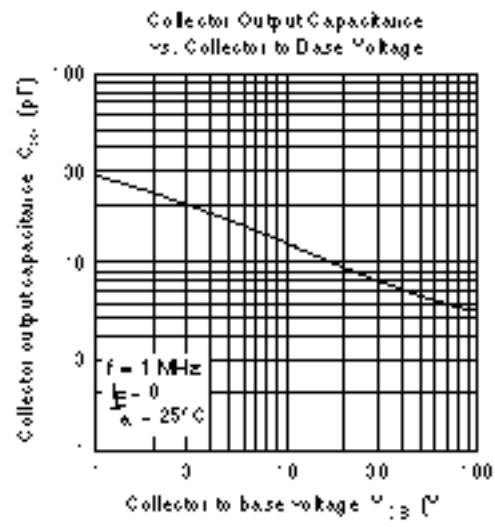
B	C
60 to 120	100 to 200



2SD2122(L)/(S), 2SD2123(L)/(S)



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