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

Silicon NPN Epitaxial

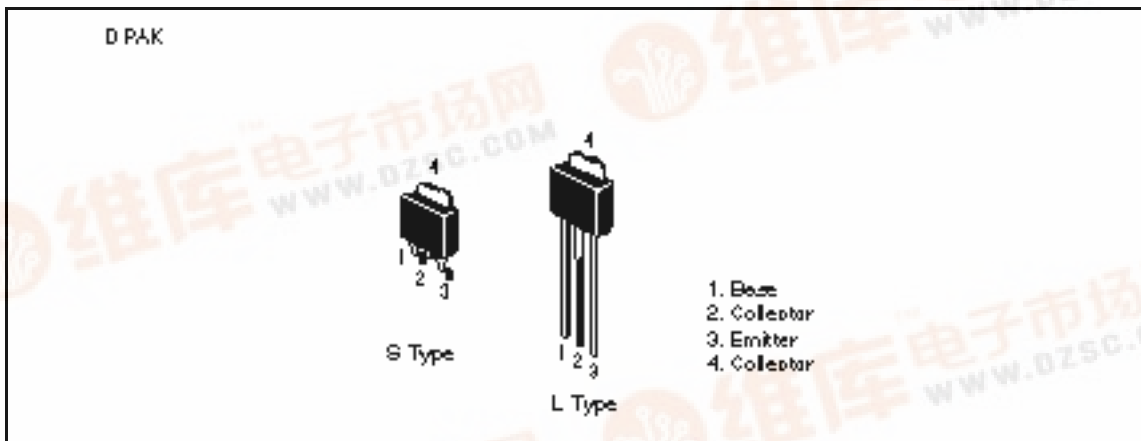
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## Application

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)

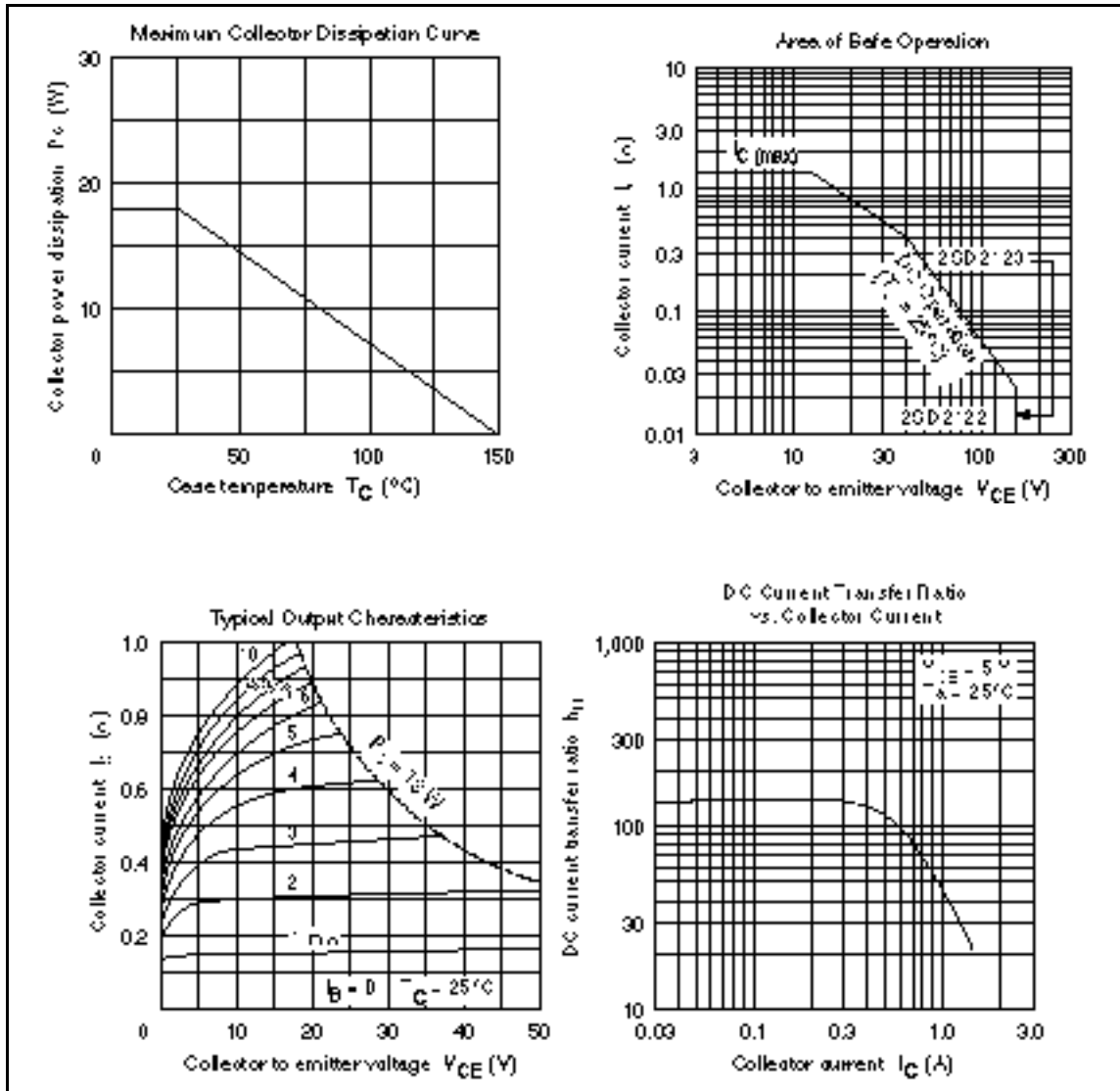
Item	Symbol	2SD2122(L)/(S)			2SD2123(L)/(S)			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	180	—	—	180	—	—	V	$I_C = 1\text{ mA}, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	160	—	—	V	$I_C = 10\text{ mA}, R_{BE} =$
Emitter 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	$\mu\text{A}$	$V_{CB} = 160\text{ V}, I_E = 0$
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

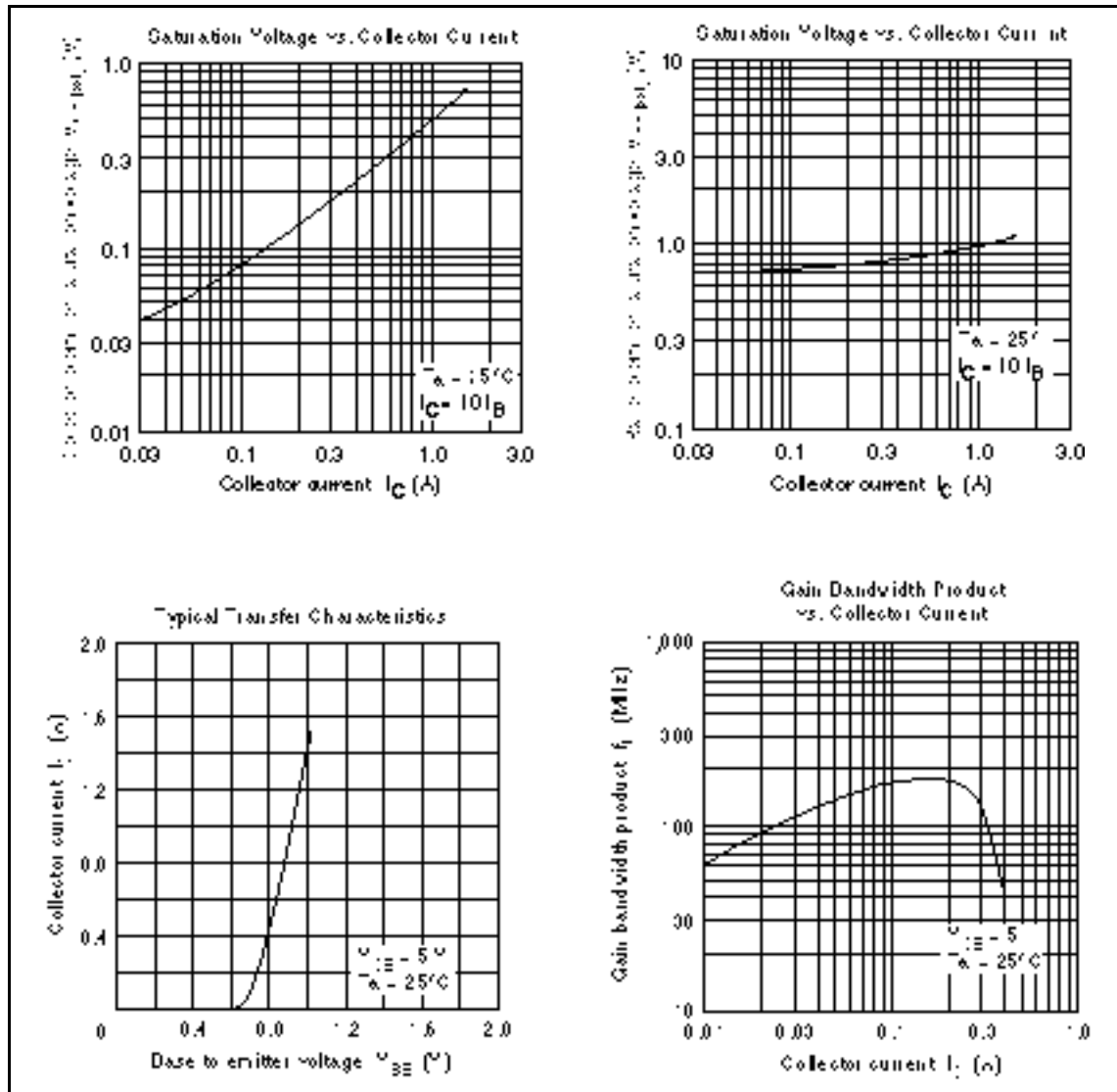
2. The 2SD2122(L)/(S) and 2SD2123(L)/(S) are grouped by  $h_{FE1}$  as follows.

B	C
60 to 120	100 to 200

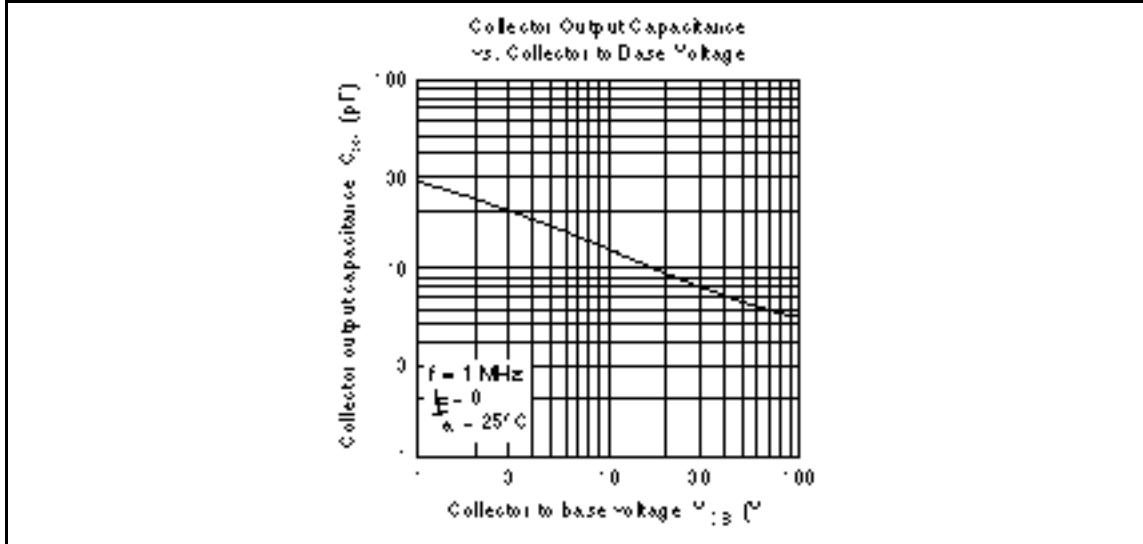
2SD2122(L)/(S), 2SD2123(L)/(S)



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



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



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

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