

To our customers,

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## Old Company Name in Catalogs and Other Documents

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On April 1<sup>st</sup>, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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EOL Product

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To all our customers

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Renesas Technology Corp.  
Customer Support Dept.  
April 1, 2003

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

Silicon NPN Epitaxial

**RENESAS**

ADE-208-926 (Z)  
1st. Edition  
September 2000

## Application

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

## Outline

DPAK



S Type



L Type

- 1. Base
- 2. Collector
- 3. Emitter
- 4. Collector

## 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  $T_C = 25^\circ\text{C}$ .

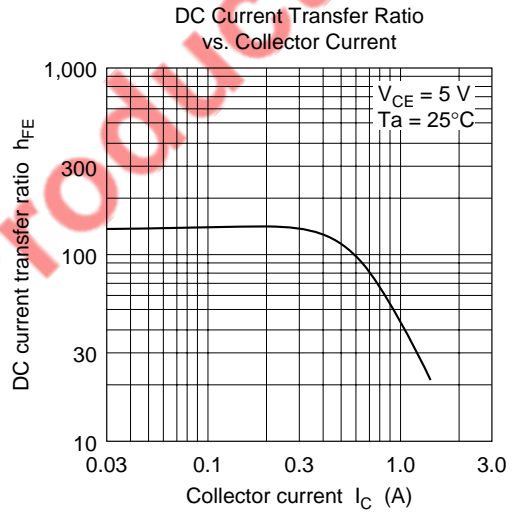
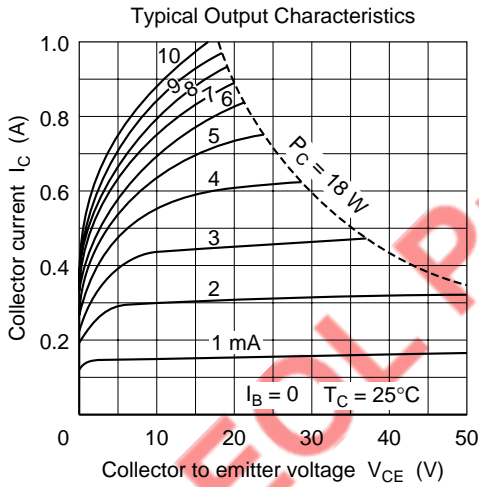
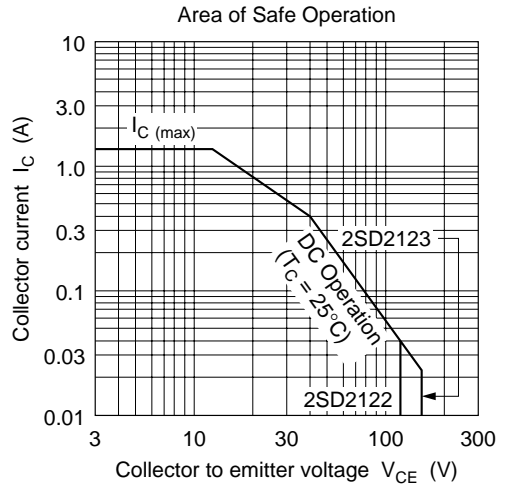
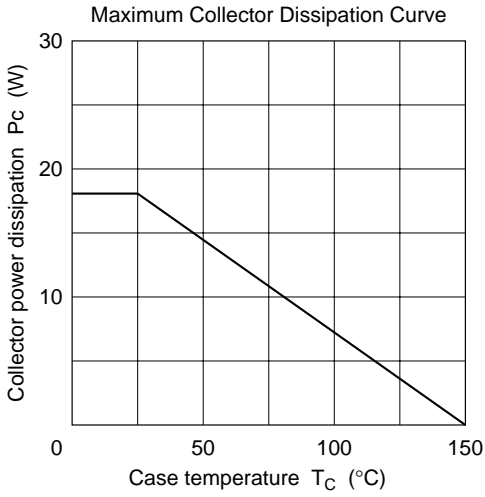
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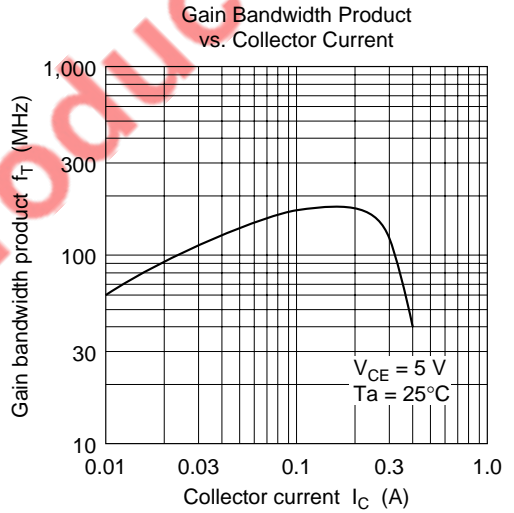
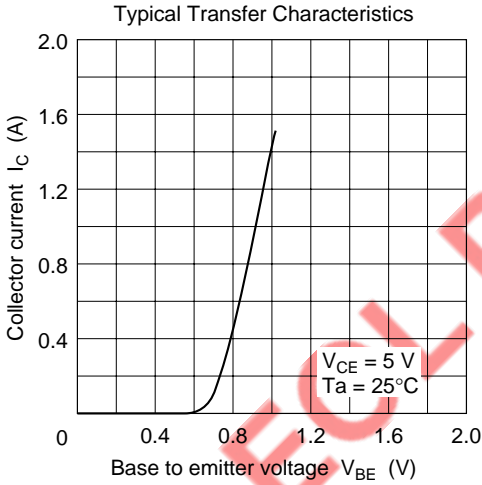
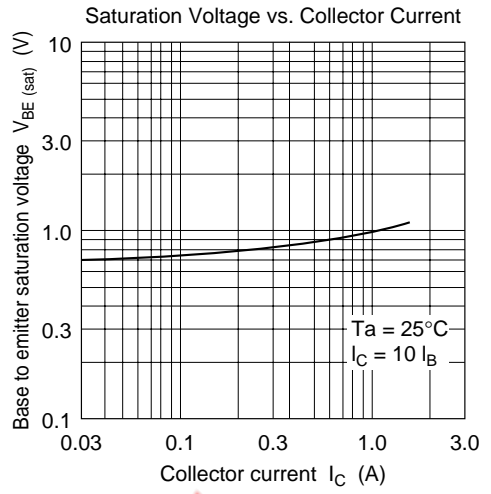
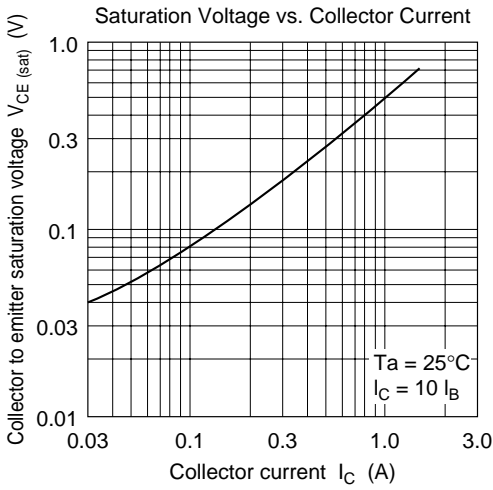
Item	Symbol	2SD2122(L)/(S)			2SD2123(L)/(S)			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	180	—	—	180	—	—	V	$I_C = 1\text{ mA}, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	160	—	—	V	$I_C = 10\text{ mA}, R_{BE} = \infty$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

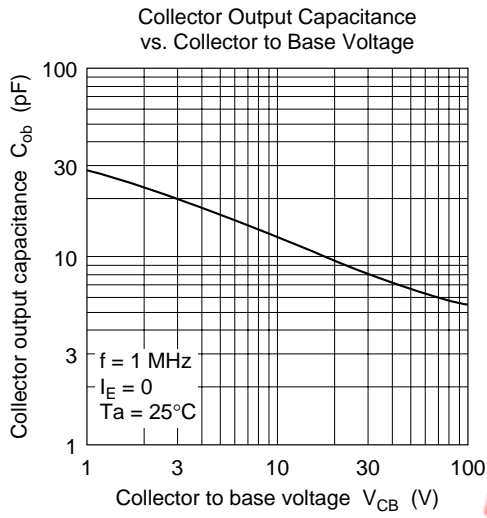
2. The 2SD2122(L)/(S) and 2SD2123(L)/(S) are grouped by  $h_{FE1}$  as follows.

B	C
60 to 120	100 to 200









EOL Product

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