

To our customers,

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## Old Company Name in Catalogs and Other Documents

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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 announced Product

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To all our customers

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Renesas Technology Home Page: <http://www.renesas.com>

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

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# 2SB857, 2SB858

Silicon PNP Triple Diffused

## RENESAS

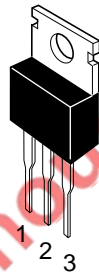
ADE-208-859 (Z)  
1st. Edition  
September 2000

### Application

Low frequency power amplifier complementary pair with 2SD1133 and 2SD1134

### Outline

TO-220AB



1. Base
2. Collector (Flange)
3. Emitter

### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings		Unit
		2SB857	2SB858	
Collector to base voltage	$V_{CBO}$	-70	-70	V
Collector to emitter voltage	$V_{CEO}$	-50	-60	V
Emitter to base voltage	$V_{EBO}$	-5	-5	V
Collector current	$I_C$	-4	-4	A
Collector peak current	$I_{C(peak)}$	-8	-8	A
Collector power dissipation	$P_C^{*1}$	40	40	W
Junction temperature	$T_j$	150	150	°C
Storage temperature	$T_{stg}$	-45 to +150	-45 to +150	°C

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

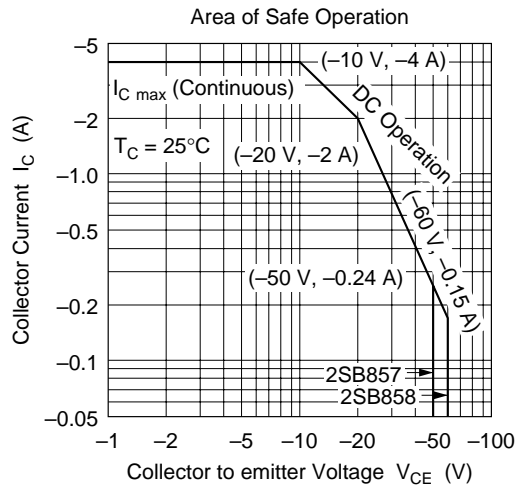
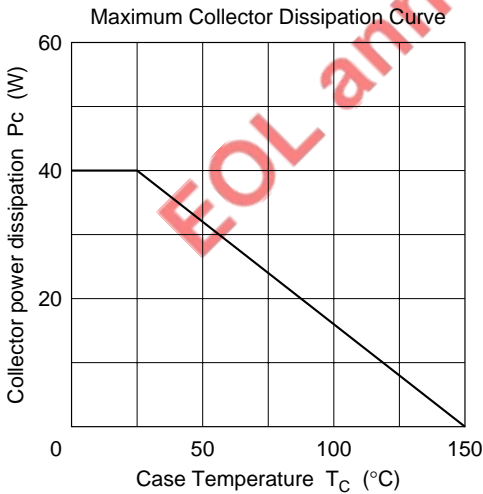
# 2SB857, 2SB858

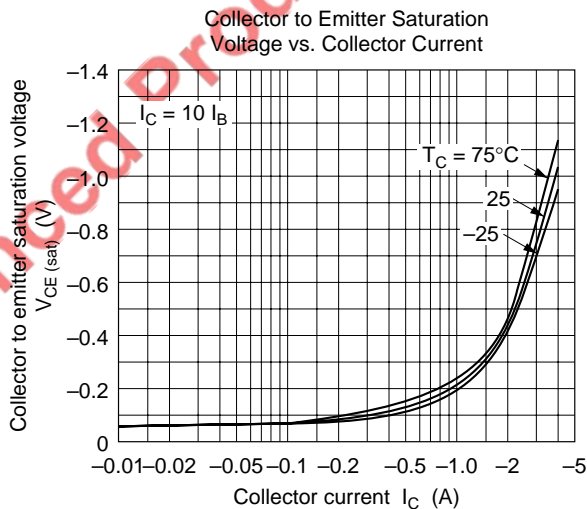
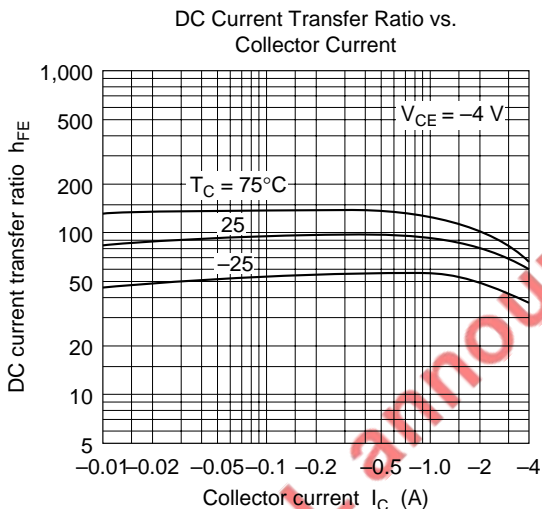
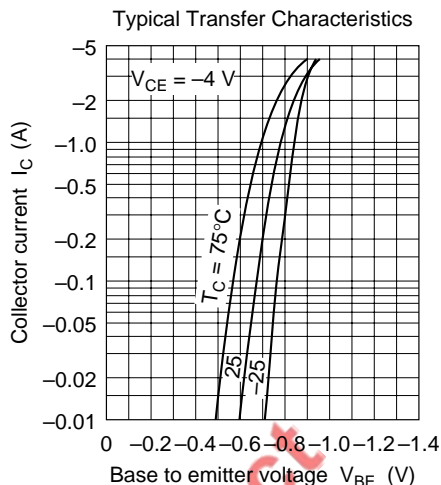
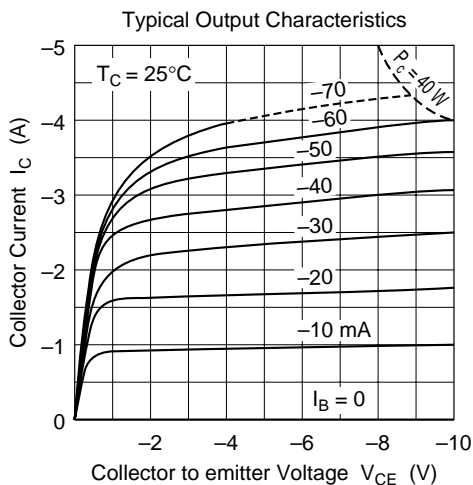
## Electrical Characteristics (Ta = 25°C)

Item	Symbol	2SB857			2SB858			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	-70	—	—	-70	—	—	V	$I_C = -10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-50	—	—	-60	—	—	V	$I_C = -50 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	-5	—	—	V	$I_E = -10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	-1	—	—	-1	$\mu A$	$V_{CB} = -50 \text{ V}, I_E = 0$
DC current transfer ratio	$h_{FE1}^{*1}$	60	—	320	60	—	320		$V_{CE} = -4 \text{ V}, I_C = -1 \text{ A}^{*2}$
	$h_{FE2}$	35	—	—	35	—	—		$I_C = -0.1 \text{ A}^{*2}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-1	—	—	-1	V	$I_C = -2 \text{ A}, I_B = -0.2 \text{ A}^{*2}$
Base to emitter voltage	$V_{BE}$	—	—	-1	—	—	-1	V	$V_{CE} = -4 \text{ V}, I_C = -1 \text{ A}^{*2}$
Gain bandwidth product	$f_T$	—	15	—	—	15	—	MHz	$V_{CE} = -4 \text{ V}, I_C = -0.5 \text{ A}^{*2}$

- Notes: 1. The 2SB857 and 2SB858 are grouped by  $h_{FE1}$  as follows.  
 2. Pulse test

B	C	D
60 to 120	100 to 200	160 to 320





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