

To our customers,

Old Company Name in Catalogs and Other Documents

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

April 1st, 2010
Renesas Electronics Corporation

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

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EOL announced Product

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

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2SB859

Silicon PNP Triple Diffused

RENESAS

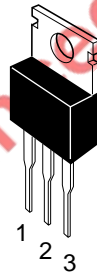
ADE-208-860 (Z)
1st. Edition
September 2000

Application

Low frequency power amplifier complementary pair with 2SD1135

Outline

TO-220AB



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

Absolute Maximum Ratings (T_a = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	V _{CBO}	-100	V
Collector to emitter voltage	V _{CEO}	-80	V
Emitter to base voltage	V _{EBO}	-5	V
Collector current	I _C	-4	A
Collector peak current	I _{C(peak)}	-8	A
Collector power dissipation	P _C *1	40	W
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-45 to +150	°C

Note: 1. Value at T_c = 25°C

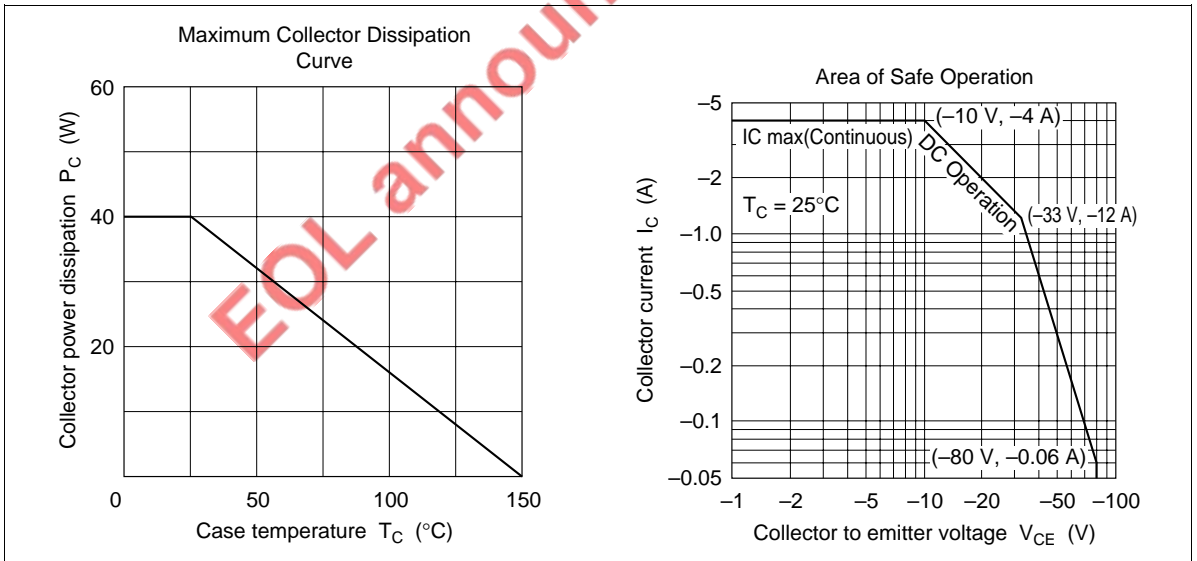
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-80	—	—	V	$I_C = -50 \text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	V	$I_E = -10 \text{ }\mu\text{A}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-0.1	mA	$V_{CB} = -80 \text{ V}$, $I_E = 0$
DC current transfer ratio	h_{FE1}^{*1}	60	—	200		$V_{CE} = -5 \text{ V}$, $I_C = -1 \text{ A}^{*2}$
	h_{FE2}	35	—	—		$V_{CE} = -5 \text{ V}$, $I_C = -0.1 \text{ A}^{*2}$
Base to emitter voltage	V_{BE}	—	—	-1.5	V	$V_{CE} = -5 \text{ V}$, $I_C = -1 \text{ A}^{*2}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-2	V	$I_C = -2 \text{ A}$, $I_B = -0.2 \text{ A}^{*2}$
Gain bandwidth product	f_T	—	20	—	MHz	$V_{CE} = -5 \text{ V}$, $I_C = -0.5 \text{ A}^{*2}$
Collector output capacitance	C_{ob}	—	75	—	pF	$V_{CB} = -20 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$

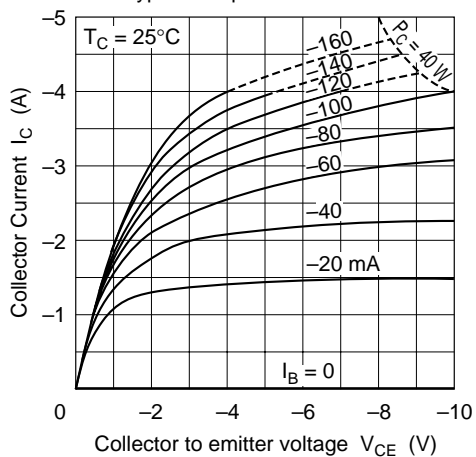
Notes: 1. The 2SB859 is grouped by h_{FE1} as follows.

2. Pulse test

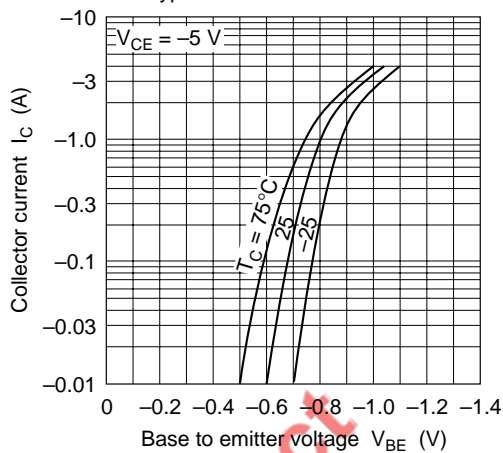
B	C
60 to 120	100 to 200



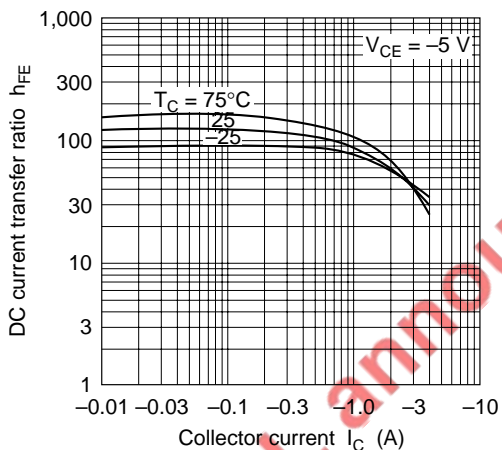
Typical Output Characteristics



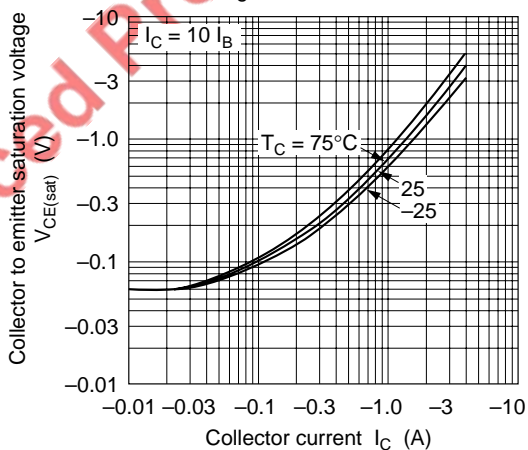
Typical Transfer Characteristics



DC Current Transfer Ratio vs. Collector Current



Collector to Emitter Saturation Voltage vs. Collector Current



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