

# 2SB857, 2SB858

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Silicon PNP Triple Diffused

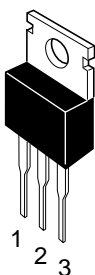
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## Application

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

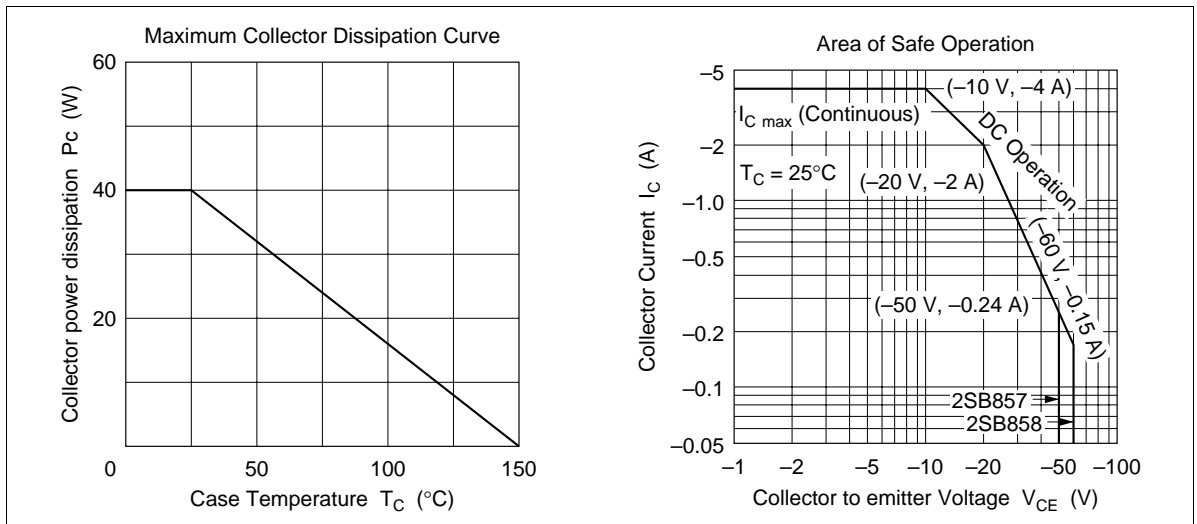
## Electrical Characteristics (Ta = 25°C)

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		$V_{CE} = \quad I_C = -1 \text{ A}^{*2}$
	$h_{FE2}$	35	—	—	35	—	—		-4 V $I_C = -0.1 \text{ A}^{*2}$
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	$V_{CE} = -4 \text{ V}, I_C = -0.5 \text{ A}^{*2}$

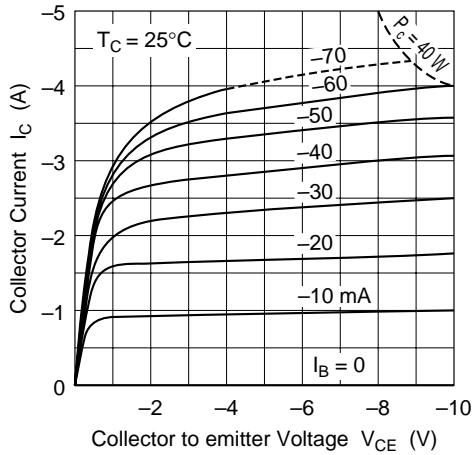
Notes: 1. The 2SB857 and 2SB858 are grouped by  $h_{FE1}$  as follows.

2. Pulse test

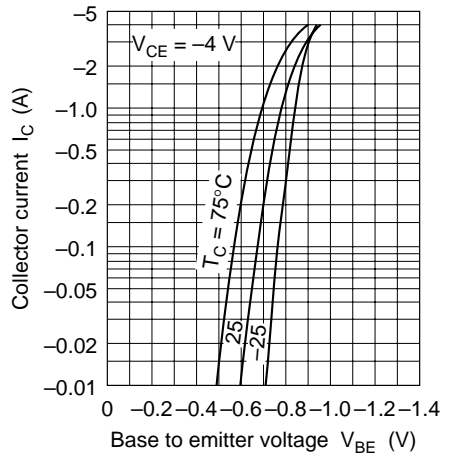
B	C	D
60 to 120	100 to 200	160 to 320



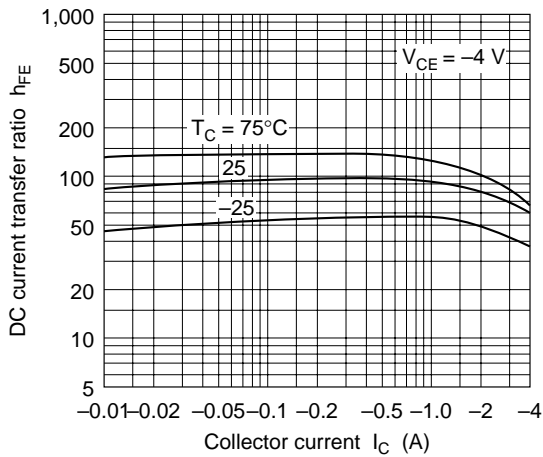
Typical Output Characteristics



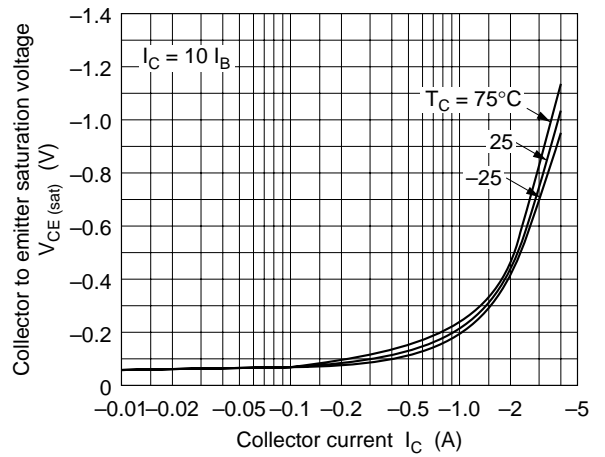
Typical Transfer Characteristics

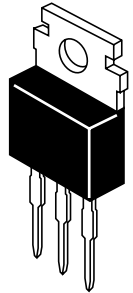
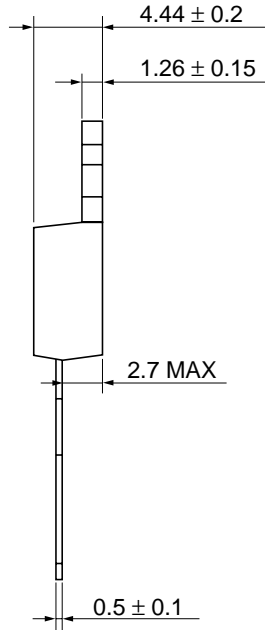
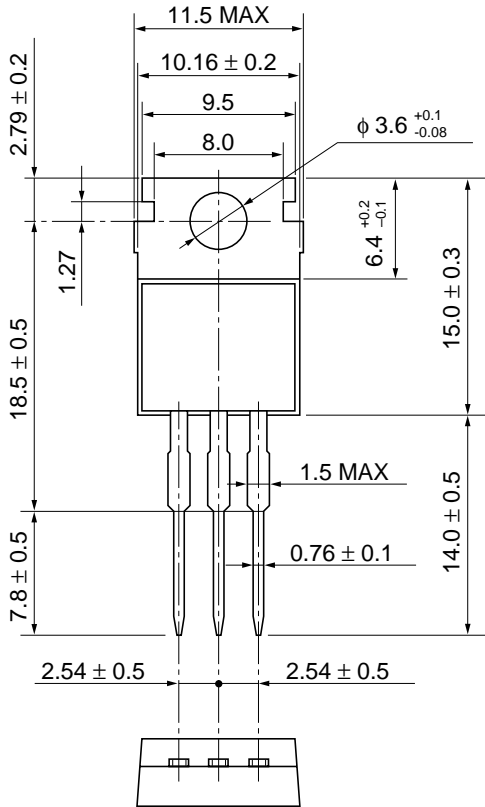


DC Current Transfer Ratio vs. Collector Current



Collector to Emitter Saturation Voltage vs. Collector Current





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Weight (reference value)	1.8 g

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# HITACHI

## Hitachi, Ltd.

Semiconductor & Integrated Circuits.  
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan  
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

URL North America : <http://semiconductor.hitachi.com/>  
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### For further information write to:

Hitachi Semiconductor  
(America) Inc.  
179 East Tasman Drive,  
San Jose, CA 95134  
Tel: <1> (408) 433-1990  
Fax: <1>(408) 433-0223

Hitachi Europe GmbH  
Electronic components Group  
Dornacher Straße 3  
D-85622 Feldkirchen, Munich  
Germany  
Tel: <49> (89) 9 9180-0  
Fax: <49> (89) 9 29 30 00

Hitachi Europe Ltd.  
Electronic Components Group.  
Whitebrook Park  
Lower Cookham Road  
Maidenhead  
Berkshire SL6 8YA, United Kingdom  
Tel: <44> (1628) 585000  
Fax: <44> (1628) 778322

Hitachi Asia Pte. Ltd.  
16 Collyer Quay #20-00  
Hitachi Tower  
Singapore 049318  
Tel: 535-2100  
Fax: 535-1533

Hitachi Asia Ltd.  
Taipei Branch Office  
3F, Hung Kuo Building, No.167,  
Tun-Hwa North Road, Taipei (105)  
Tel: <886> (2) 2718-3666  
Fax: <886> (2) 2718-8180

Hitachi Asia (Hong Kong) Ltd.  
Group III (Electronic Components)  
7/F., North Tower, World Finance Centre,  
Harbour City, Canton Road, Tsim Sha Tsui,  
Kowloon, Hong Kong  
Tel: <852> (2) 735 9218  
Fax: <852> (2) 730 0281  
Telex: 40815 HITEC HX

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