

2SB857, 2SB858

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Silicon PNP Triple Diffused

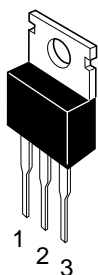
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Application

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

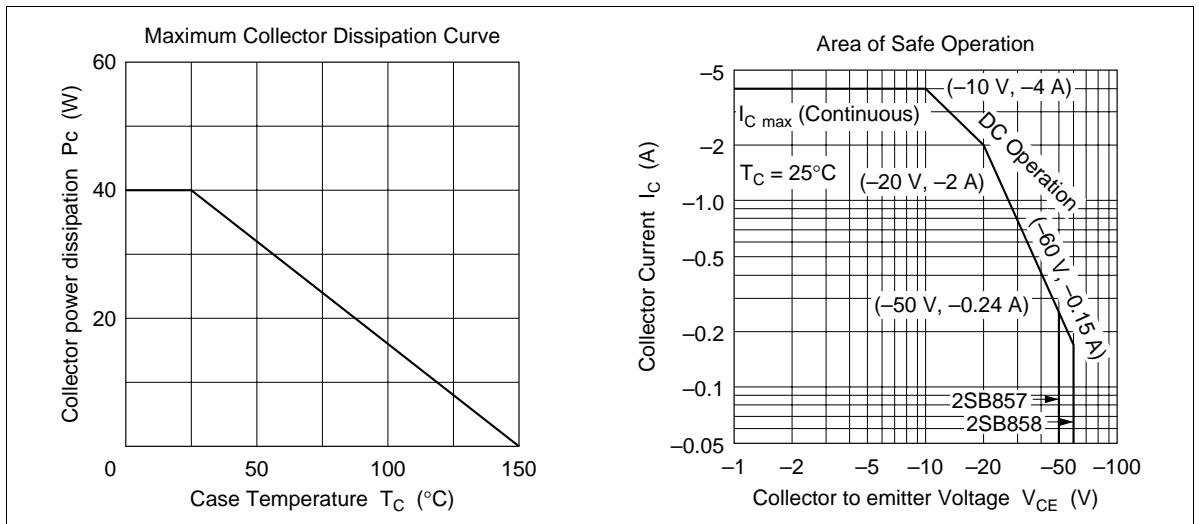
Electrical Characteristics (Ta = 25°C)

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	μA	$V_{CB} = -50 \text{ V}, I_E = 0$
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	$V_{CE} = -4 \text{ V}, I_C = -0.5 \text{ A}^{*2}$

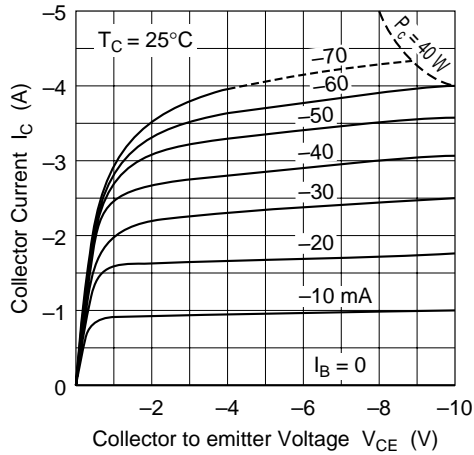
Notes: 1. The 2SB857 and 2SB858 are grouped by h_{FE1} as follows.

2. Pulse test

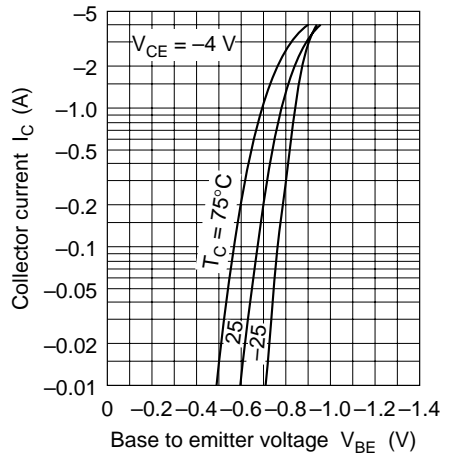
B	C	D
60 to 120	100 to 200	160 to 320



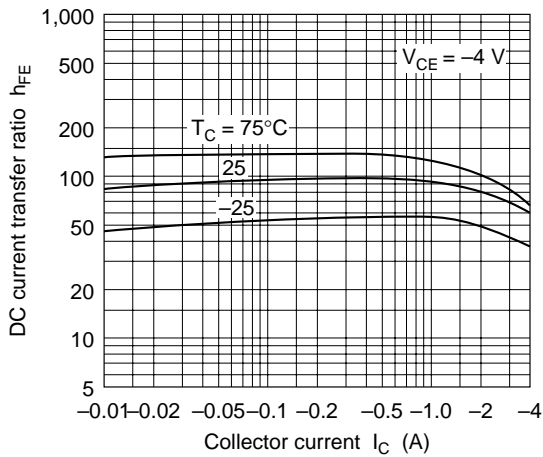
Typical Output Characteristics



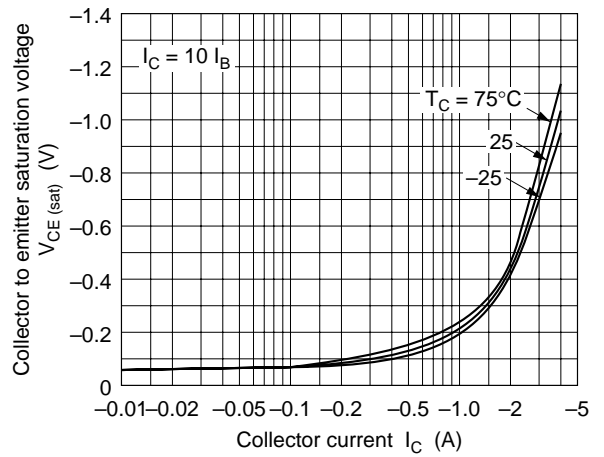
Typical Transfer Characteristics

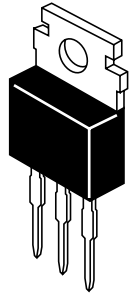
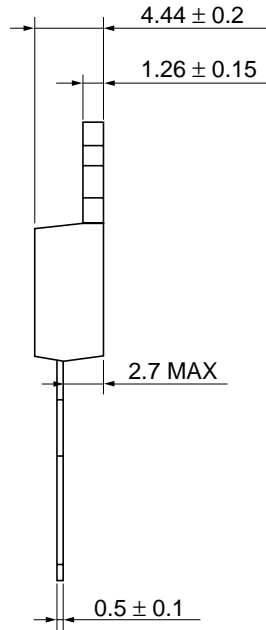
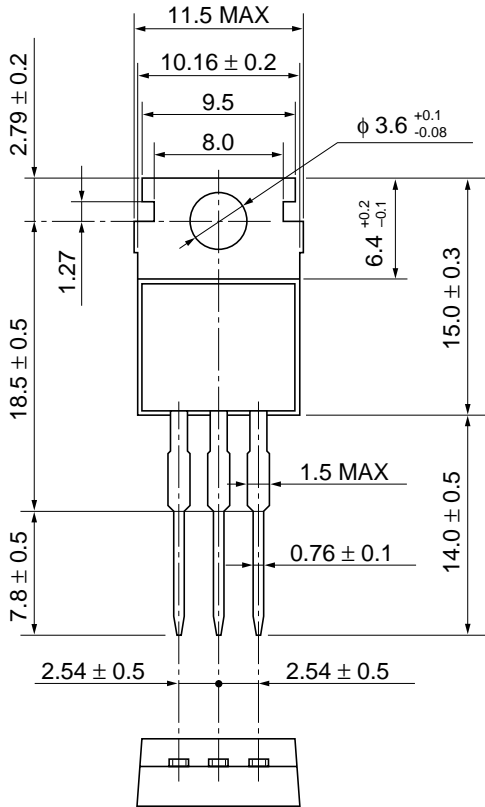


DC Current Transfer Ratio vs. Collector Current



Collector to Emitter Saturation Voltage vs. Collector Current





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EIAJ	Conforms
Weight (reference value)	1.8 g

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