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# 2SD1133, 2SD1134

# Silicon NPN Triple Diffused

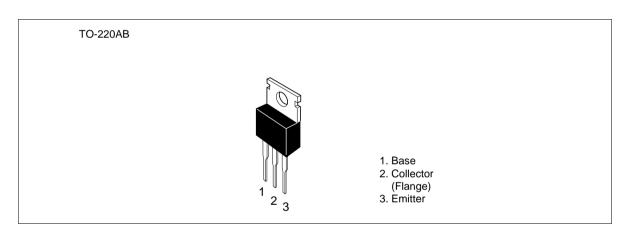


ADE-208-905 (Z) 1st. Edition September 2000

#### **Application**

Low frequency power amplifier complementary pair with 2SB857 and 2SB858

#### **Outline**



### **Absolute Maximum Ratings** $(Ta = 25^{\circ}C)$

		Ratings			
Item	Symbol	2SD1133	2SD1134	Unit	
Collector to base voltage	V <sub>CBO</sub>	70	70	V	
Collector to emitter voltage	V <sub>CEO</sub>	50	60	V	
Emitter to base voltage	$V_{EBO}$	5	5	V	
Collector current	I <sub>c</sub>	4	4	А	
Collector peak current	I <sub>C(peak)</sub>	8	8	Α	
Collector power dissipation	P <sub>c</sub> *1	40	40	W	
Junction temperature	Tj	150	150	°C	
Storage temperature	Tstg	-45 to +150	-45 to +150	°C	

Note: 1. Value at  $T_c = 25$ °C.

## 2SD1133, 2SD1134

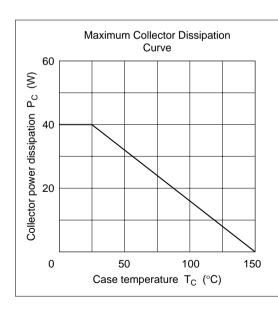
### **Electrical Characteristics** ( $Ta = 25^{\circ}C$ )

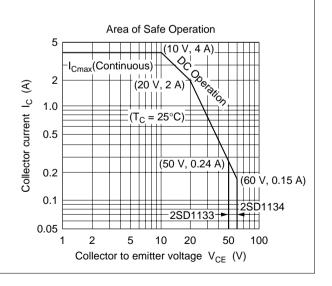
		2SD1	133		2SD1134				
Item	Symbol	Min	Тур	Max	Min	Тур	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	70	_	_	70	_	_	V	$I_{c} = 10 \mu\text{A},  I_{E} = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	50	_	_	60	_	_	V	$I_{\rm C}$ = 50 mA, $R_{\rm BE}$ = $\infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	_	_	5	_	_	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	I <sub>CBO</sub>	_	_	1	_	_	1	μΑ	V <sub>CB</sub> = 50 V, I <sub>E</sub> = 0
DC current transfer ratio	h <sub>FE1</sub> *1	60	_	320	60	_	320		$V_{CE} = 4V I_{C} = 1 A^{*2}$
	h <sub>FE2</sub>	35	_	_	35	_	_		$I_{\rm C} = 0.1  {\rm A}^{*2}$
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	_	_	1	_	_	1	V	$I_{\rm C} = 2 \text{ A}, I_{\rm B} = 0.2 \text{ A}^{*2}$
Base to emitter voltage	$V_{BE}$	_	_	1	_	_	1	V	$V_{CE} = 4 \text{ V}, I_{C} = 1 \text{ A}^{*2}$
Gain bandwidth product	f <sub>T</sub>	_	7	_	_	7	_	MHz	$V_{CE} = 4 \text{ V}, I_{C} = 0.5 \text{ A}^{*2}$

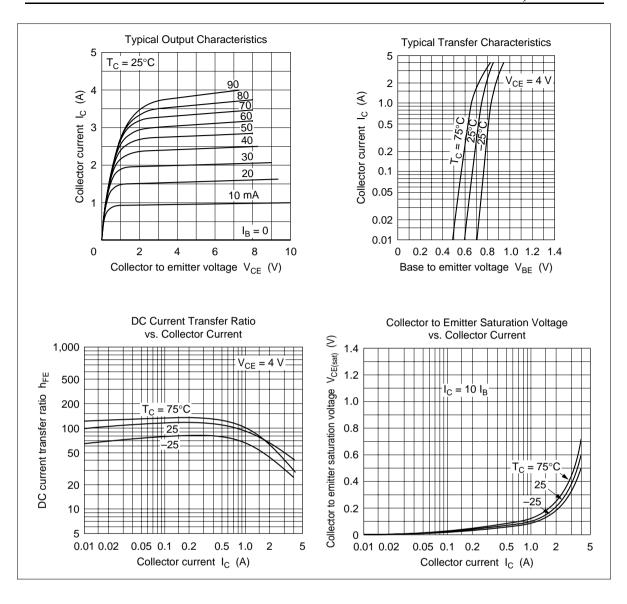
Notes: 1. The 2SD1133 and 2SD1134 are grouped by  $h_{\text{FE1}}$  as follows.

2. Pulse test.

В	С	D
60 to 120	100 to 200	160 to 320







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