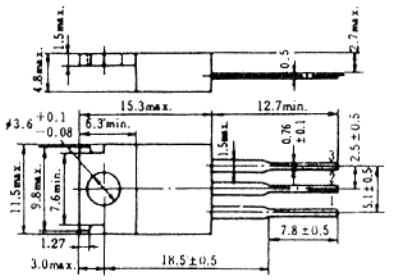
HITACHI

2SD1133, 2SD1134

SILICON NPN TRIPLE DIFFUSED

LOW FREQUENCY POWER AMPLIFIER
COMPLEMENTARY PAIR WITH 2SB857 AND 2SB858



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

(Dimensions in mm)

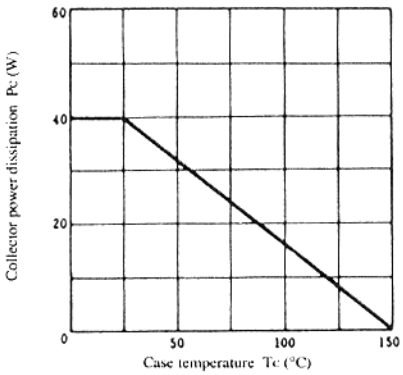
(JEDEC TO-220AB)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SD1133	2SD1134	Unit
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*	40	40	W
Junction temperature	T_j	150	150	°C
Storage temperature	T_{stg}	−45 to +150	−45 to +150	°C

* Value at T_C = 25°C.

MAXIMUM COLLECTOR DISSIPATION CURVE



■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	2SD1133 min.	2SD1133 typ.	2SD1133 max.	2SD1134 min.	2SD1134 typ.	2SD1134 max.	Unit
Collector to base breakdown voltage	$V_{(BR)CBO}$	I_C = 10μA, I_E = 0	70	—	—	70	—	—	V
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 50mA, R_{BE} = ∞	50	—	—	60	—	—	V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	5	—	—	5	—	—	V
Collector cutoff current	I_{CBO}	V_{CB} = 50V, I_E = 0	—	—	1	—	—	1	μA
DC current transfer ratio	h_{FE1}*	V_{CE} = 4V, I_C = 1A**	60	—	320	60	—	320	
	h_{FE2}	V_{CE} = 4V, I_C = 0.1A**	35	—	—	35	—	—	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 2A, I_B = 0.2A**	—	—	1	—	—	1	V
Base to emitter voltage	V_{BE}	V_{CE} = 4V, I_C = 1A**	—	—	1	—	—	1	V
Gain bandwidth product	f_T	V_{CE} = 4V, I_C = 0.5A**	—	7	—	—	7	—	MHz

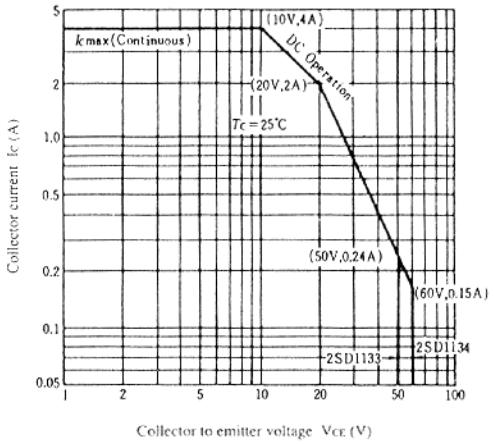
* The 2SD1133 and 2SD1134 are grouped by h_{FE1} as follows.

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

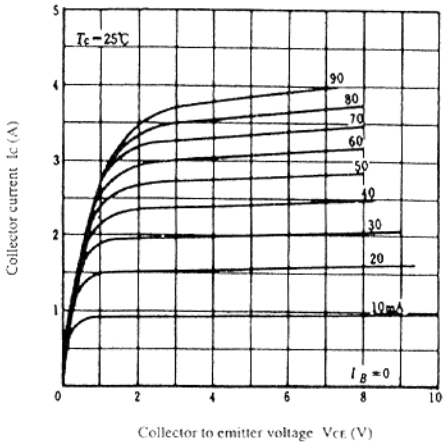
** Pulse Test.

2SD1133, 2SD1134

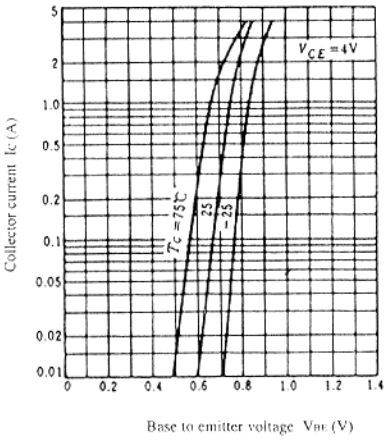
AREA OF SAFE OPERATION



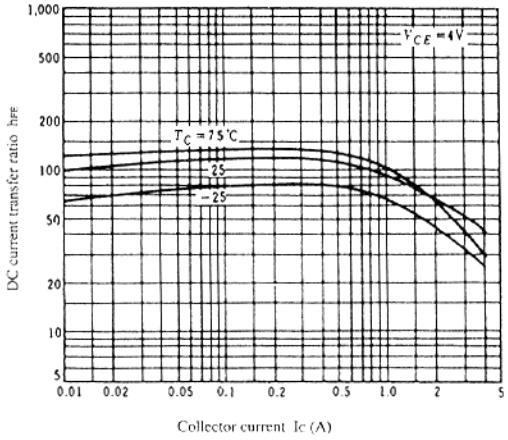
TYPICAL OUTPUT CHARACTERISTICS



TYPICAL TRANSFER CHARACTERISTICS



DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT