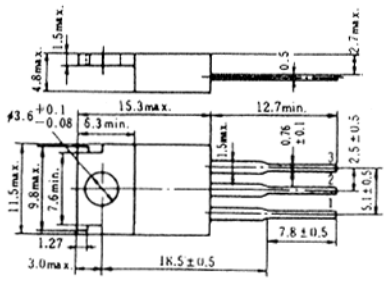
HITACHI

2SB859

SILICON PNP TRIPLE DIFFUSED

LOW FREQUENCY POWER AMPLIFIER
COMPLEMENTARY PAIR WITH 2SD1135



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

(Dimensions in mm)

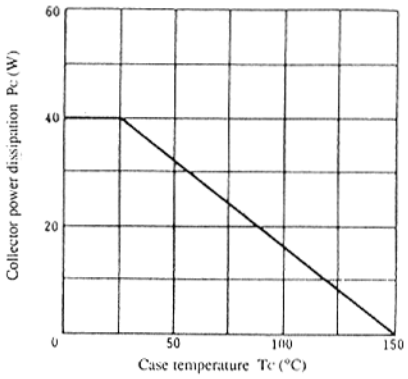
(JEDEC TO-220AB)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SB859	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*	40	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−45 to +150	°C

* Value at Tc = 25°C

MAXIMUM COLLECTOR DISSIPATION CURVE



■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

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

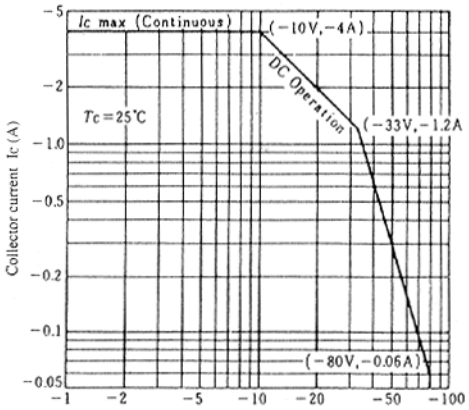
* The 2SB859 is grouped by h_{FE1} as follows.

** Pulse Test

B	C
60 to 120	100 to 200

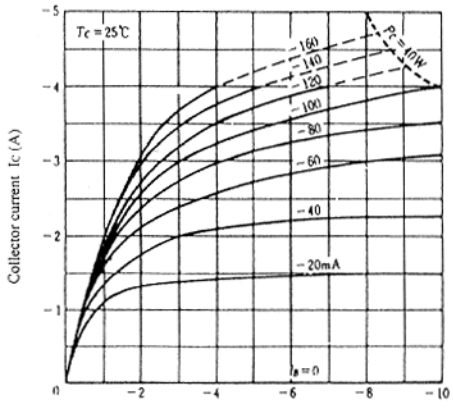
2SB859

AREA OF SAFE OPERATION



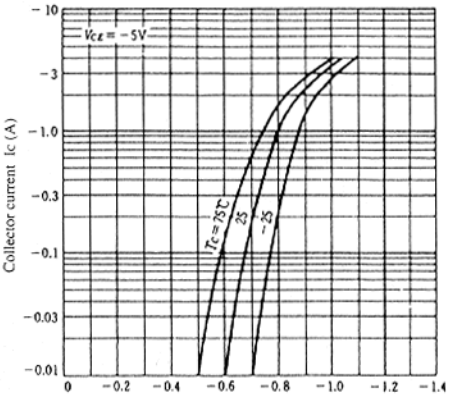
Collector to emitter voltage V_{CE} (V)

TYPICAL OUTPUT CHARACTERISTICS



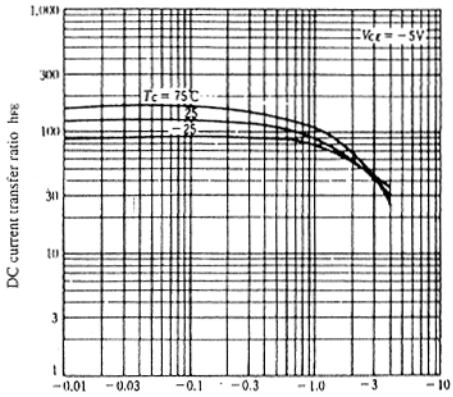
Collector to emitter voltage V_{CE} (V)

TYPICAL TRANSFER CHARACTERISTICS



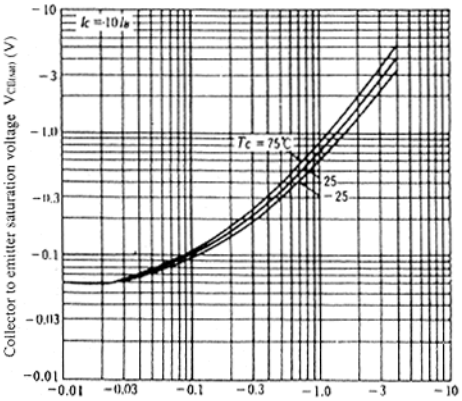
Base to emitter voltage V_{BE} (V)

DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



Collector current Ic (A)

COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT



Collector current Ic (A)