2SD1135

Silicon NPN Triple Diffused

HITACHI

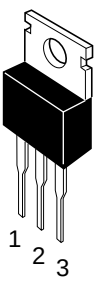
ADE-208-906 (Z)
1st. Edition
Sep. 2000

Application

Low frequency power amplifier complementary pair with 2SB859

Outline

TO-220AB



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

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	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*[1]	40	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–45 to +150	°C

Note: 1. Value at T_C = 25°C.

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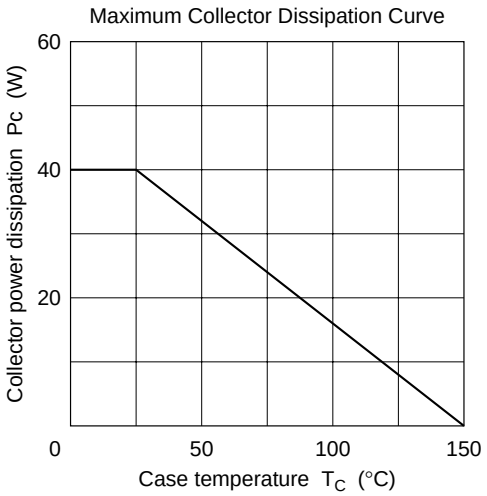
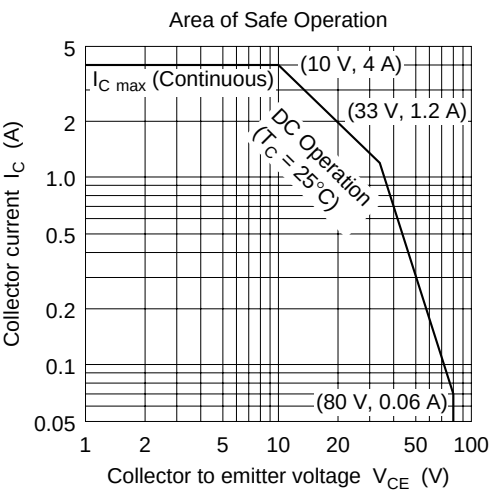
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	80	—	—	V	I_C = 50 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	0.1	mA	V_{CB} = 80 V, I_E = 0
DC current transfer ratio	h_{FE1}*[1]	60	—	200		V_{CE} = 5 V, I_C = 1 A*[2]
	h_{FE2}	35	—	—		V_{CE} = 5 V, I_C = 0.1 A*[2]
Base to emitter voltage	V_{BE}	—	—	1.5	V	V_{CE} = 5 V, I_C = 1 A*[2]
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	2	V	I_C = 2 A, I_B = 0.2 A*[2]
Gain bandwidth product	f_T	—	10	—	MHz	V_{CE} = 5 V, I_C = 0.5 A*[2]
Collector output capacitance	Cob	—	40	—	pF	V_{CB} = 20 V, I_E = 0, f = 1 MHz

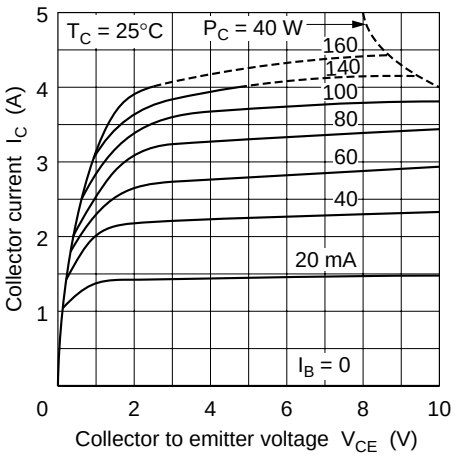
Notes: 1. The 2SD1135 is grouped by h_{FE1} as follows.
2. Pulse test.

B	C
60 to 120	100 to 200

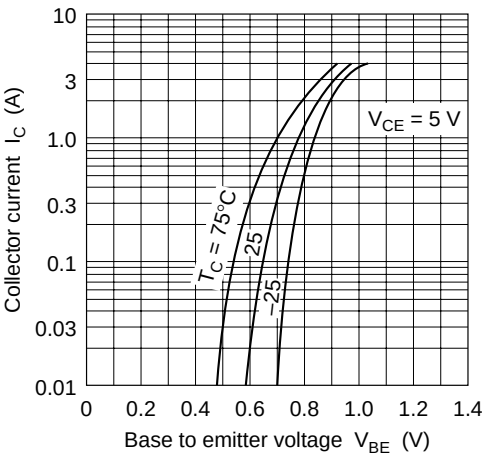




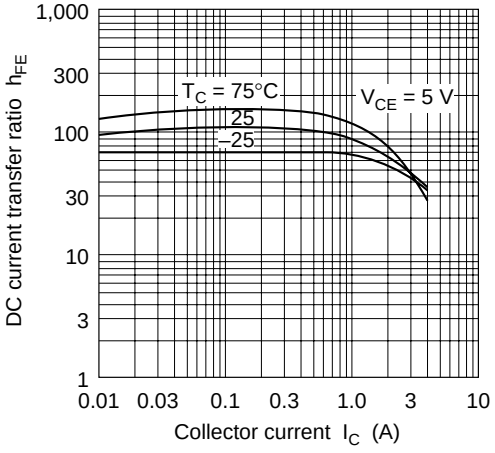
Typical Output Characteristics



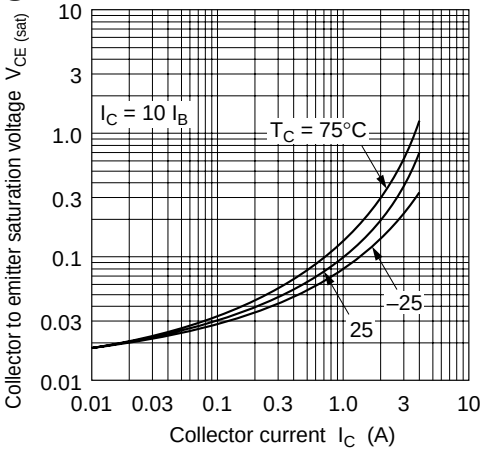
Typical Transfer Characteristics



DC Current Transfer Ratio vs. Collector Current

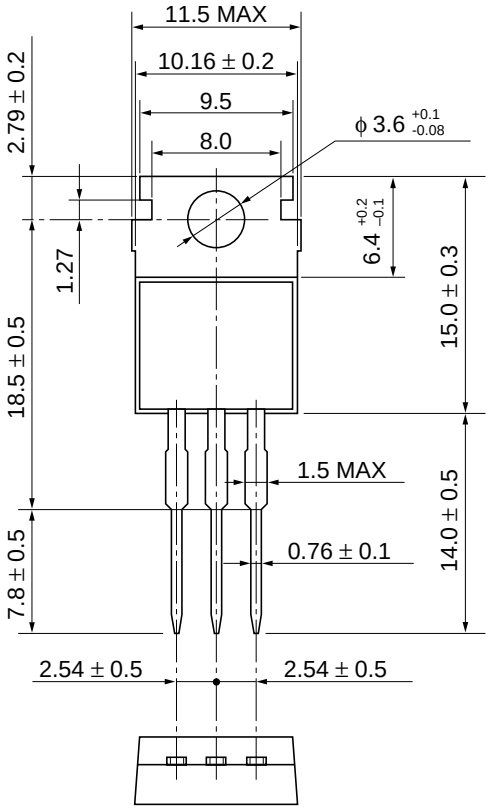


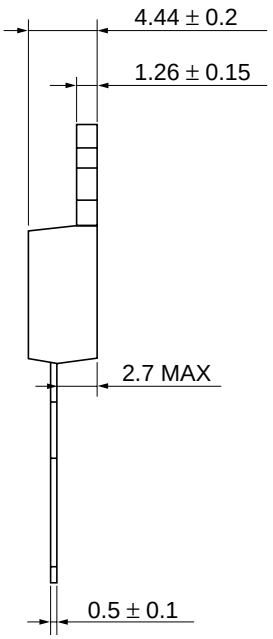
Collector to Emitter Saturation Voltage vs. Collector Current

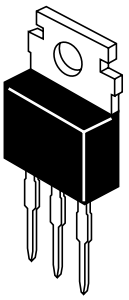


Package Dimensions

Unit: mm







Hitachi Code	TO-220AB
JEDEC	Conforms
EIAJ	Conforms
Mass (reference value)	1.8 g

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