2SD1138

Silicon NPN Triple Diffused

HITACHI

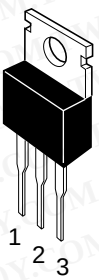
ADE-208-908 (Z)
1st. Edition
Sep. 2000

Application

Low frequency high voltage power amplifier TV vertical deflection output complementary pair with 2SB861

Outline

TO-220AB



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

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	200	V
Collector to emitter voltage	V_{CEO}	150	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	2	A
Collector peak current	$I_{C\ (peak)}$	5	A
Collector power dissipation	P_C	1.8	W
	P_C*[1]	30	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–45 to +150	°C

Note: 1. Value at T_C = 25°C.

Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	150	—	—	V	I_C = 50 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	I_E = 5 mA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	1	µA	V_{CB} = 120 V, I_E = 0
DC current transfer ratio	h_{FE1}*[1]	60	—	320		V_{CE} = 4 V, I_C = 50 mA
	h_{FE2}	60	—	—		V_{CE} = 10 V, I_C = 500 mA*[2]
Collector to emitter saturation voltage	$V_{CE\ (sat)}$	—	—	3.0	V	I_C = 500 mA, I_B = 50 mA*[2]
Base to emitter voltage	V_{BE}	—	—	1.0	V	V_{CB} = 4 V, I_C = 50 mA
Collector output capacitance	Cob	—	20	—	pF	V_{CB} = 100 V, I_E = 0, f = 1 MHz

Note: 1. The 2SD1138 is grouped by h_{FE1} as follows.
2. Pulse test.

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