

2SB1103

Silicon PNP Triple Diffused

HITACHI

ADE-208-868 (Z)

1st. Edition

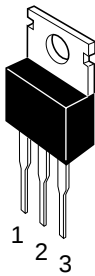
Sep. 2000

Application

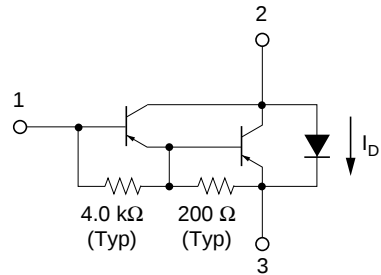
Low frequency power amplifier

Outline

TO-220AB



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



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to emitter voltage	V_{CBO}	-60	V
Collector to emitter voltage	V_{CEO}	-60	V
Emitter to base voltage	V_{EBO}	-7	V
Collector current	I_C	-8	A
Collector peak current	$I_{C(peak)}$	-12	A
Collector power dissipation	P_C^{*1}	40	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C
C to E diode forward current	I_D^{*1}	8	A

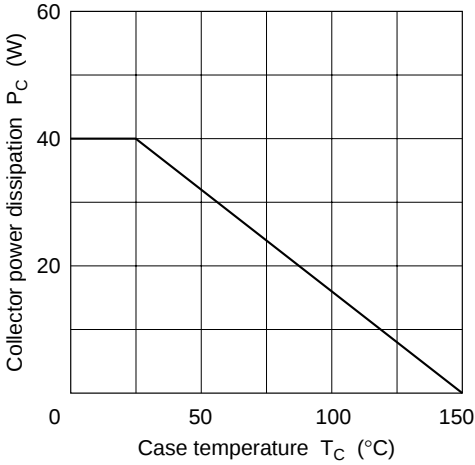
Note: 1. Value at $T_C = 25^{\circ}C$.

Electrical Characteristics (Ta = 25°C)

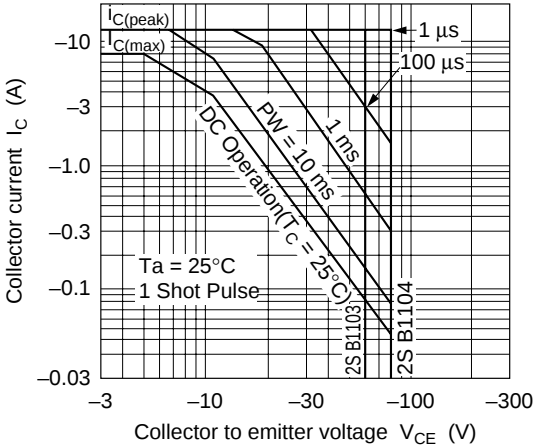
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-60	—	—	V	$I_C = -25\text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-7	—	—	V	$I_E = -50\text{ mA}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-100	μA	$V_{CB} = -60\text{ V}$, $I_E = 0$
	I_{CEO}	—	—	-10	μA	$V_{CE} = -50\text{ V}$, $R_{BE} = \infty$
DC current tarnsfer ratio	h_{FE}	1000	—	20000		$V_{CE} = -3\text{ V}$, $I_C = -4\text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)1}$	—	—	-1.5	V	$I_C = -4\text{ A}$, $I_B = -8\text{ mA}^{*1}$
	$V_{CE(sat)2}$	—	—	-3.0		$I_C = -8\text{ A}$, $I_B = -80\text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	-2.0	V	$I_C = -4\text{ A}$, $I_B = -8\text{ mA}^{*1}$
	$V_{BE(sat)2}$	—	—	-3.5		$I_C = -8\text{ A}$, $I_B = -80\text{ mA}^{*1}$
C to E diode forward voltage	V_D	—	—	3.0	V	$I_D = 8\text{ A}^{*1}$
Turn on time	t_{on}	—	0.5	—	μs	$I_C = -4\text{ A}$,
Storage time	t_{stg}	—	3.0	—		$I_{B1} = -I_{B2} = -8\text{ mA}$
Fall time	t_f	—	1.0	—		

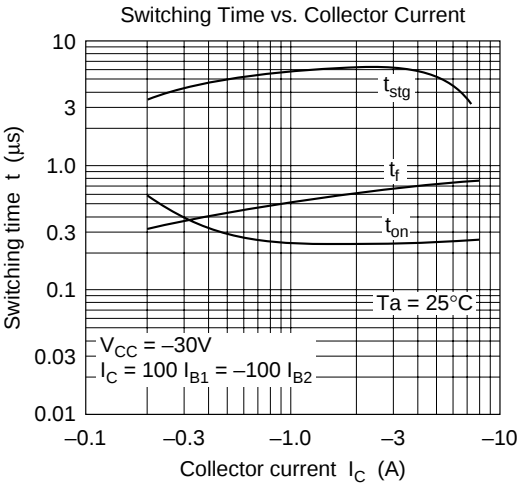
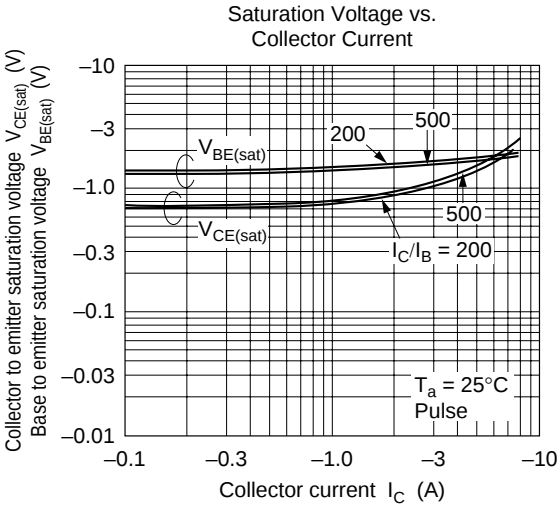
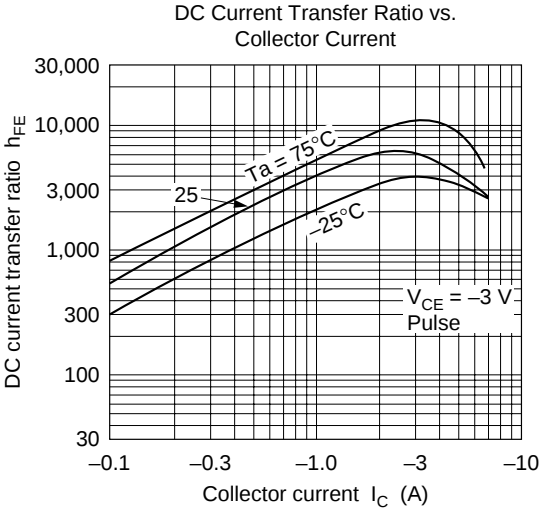
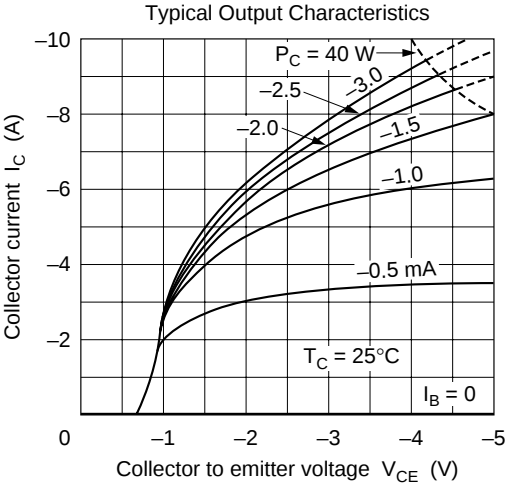
Note: 1. Pulse Test.

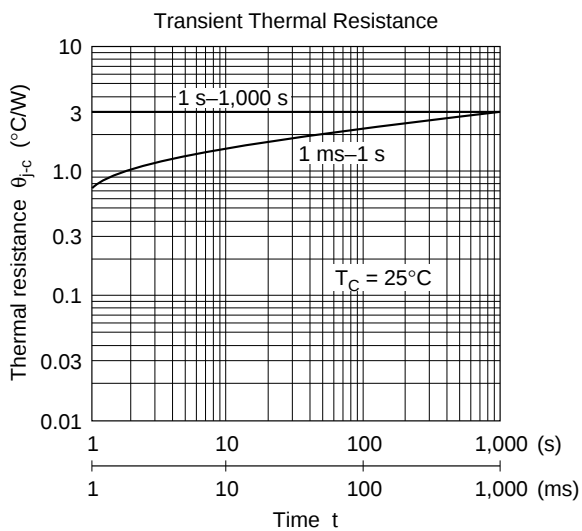
Maximum Collector Dissipation
Curve



Area of Safe Operation

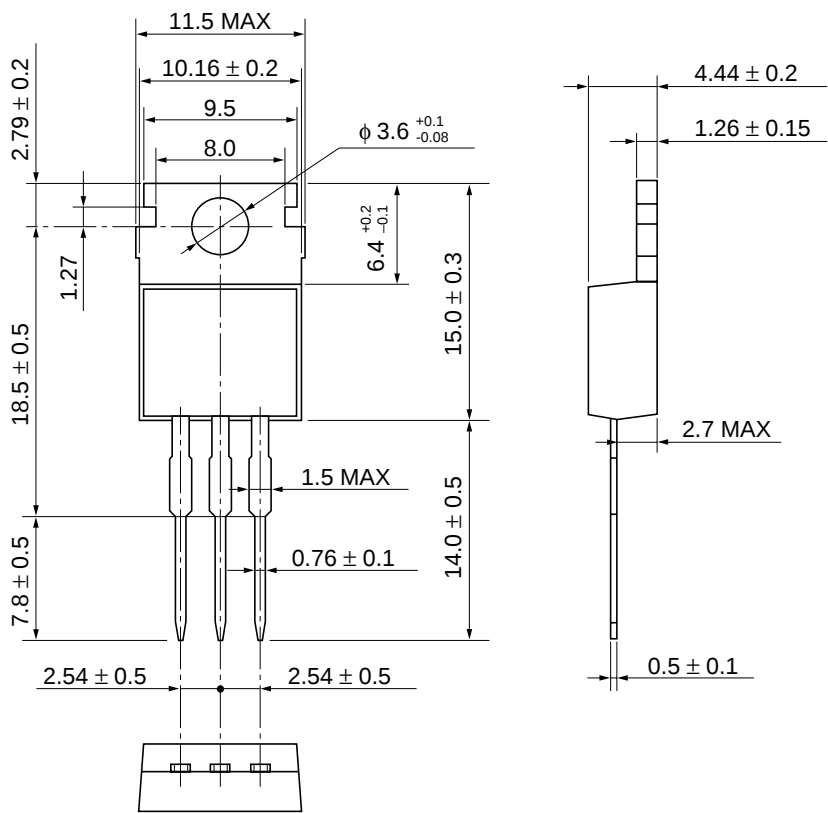






Package Dimensions

Unit: mm



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

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