

2SB1103

Silicon PNP Triple Diffused

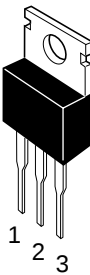
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Application

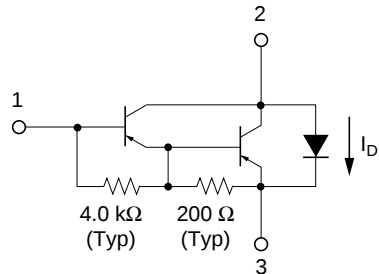
Low frequency power amplifier

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	T _j	150	°C
Storage temperature	T _{stg}	−55 to +150	°C
C to E diode forward current	I _D ^{*1}	8	A

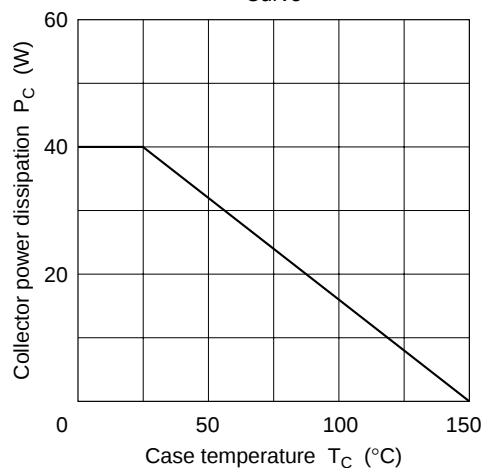
Note: 1. Value at T_C = 25°C.

Electrical Characteristics (Ta = 25°C)

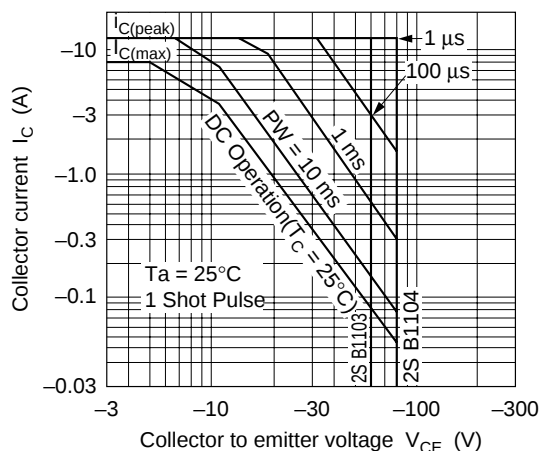
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	V _{(BR)CEO}	−60	—	—	V	I _C = −25 mA, R _{BE} = ∞
Emitter to base breakdown voltage	V _{(BR)EBO}	−7	—	—	V	I _E = −50 mA, I _C = 0
Collector cutoff current	I _{CBO}	—	—	−100	μA	V _{CB} = −60 V, I _E = 0
	I _{CEO}	—	—	−10	μA	V _{CE} = −50 V, R _{BE} = ∞
DC current tarnsfer ratio	h _{FE}	1000	—	20000		V _{CE} = −3 V, I _C = −4 A ^{*1}
Collector to emitter saturation voltage	V _{CE(sat)1}	—	—	−1.5	V	I _C = −4 A, I _B = −8 mA ^{*1}
	V _{CE(sat)2}	—	—	−3.0		I _C = −8 A, I _B = −80 mA ^{*1}
Base to emitter saturation voltage	V _{BE(sat)1}	—	—	−2.0	V	I _C = −4 A, I _B = −8 mA ^{*1}
	V _{BE(sat)2}	—	—	−3.5		I _C = −8 A, I _B = −80 mA ^{*1}
C to E diode forward voltage	V _D	—	—	3.0	V	I _D = 8 A ^{*1}
Turn on time	t _{on}	—	0.5	—	μs	I _C = −4 A,
Storage time	t _{stg}	—	3.0	—		I _{B1} = −I _{B2} = −8 mA
Fall time	t _f	—	1.0	—		

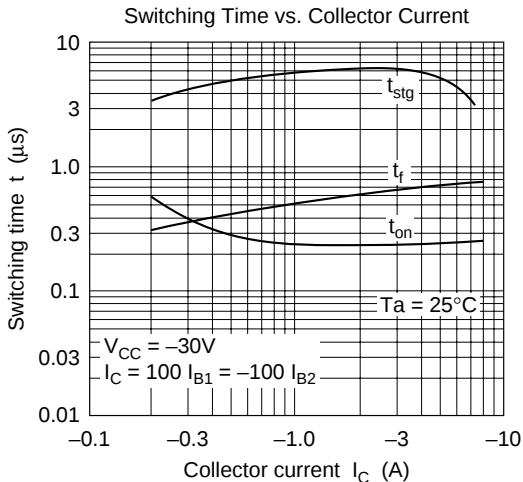
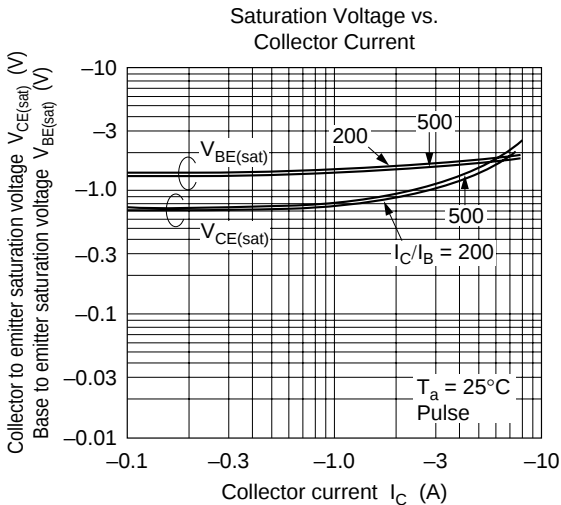
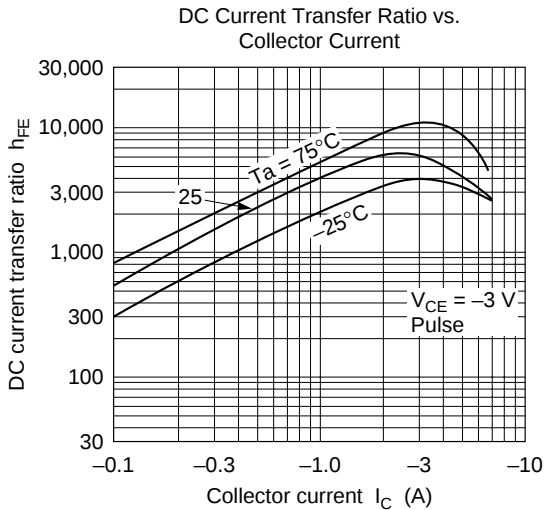
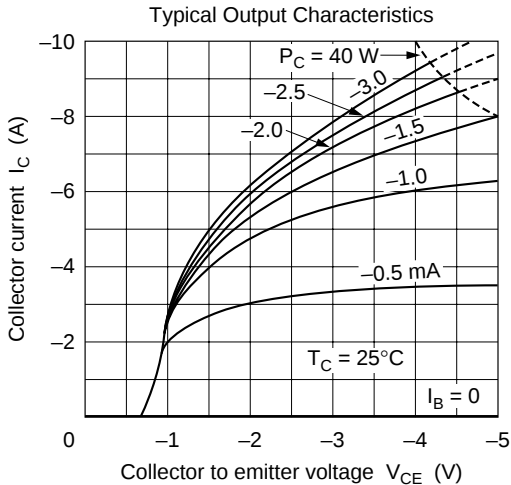
Note: 1. Pulse Test.

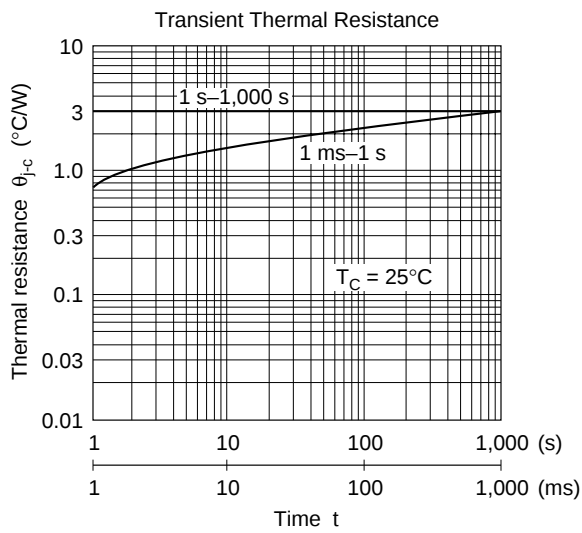
Maximum Collector Dissipation
Curve

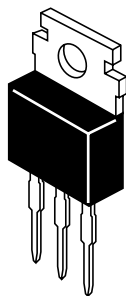
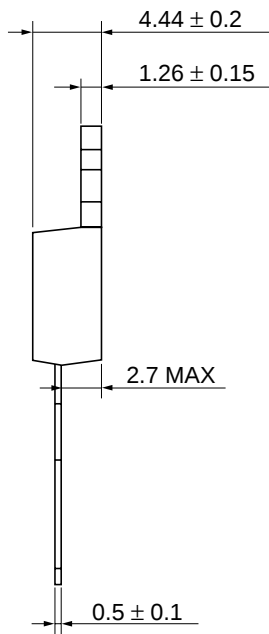
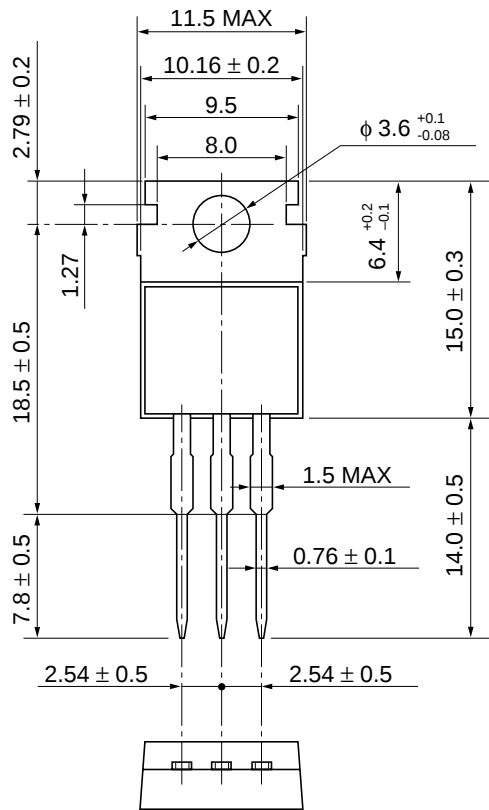


Area of Safe Operation









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

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