

2SB1390

Silicon PNP Triple Diffused

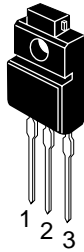
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Application

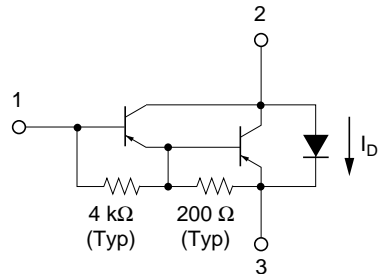
Low frequency power amplifier

Outline

TO-220FM



- 1. Base
- 2. Collector
- 3. Emitter



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base 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	2	W
	P_C^{*1}	25	
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

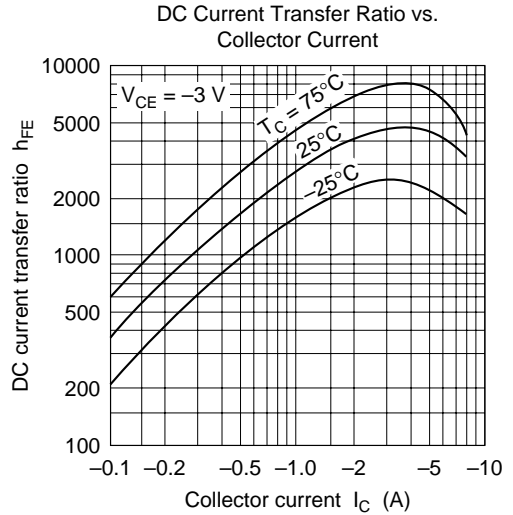
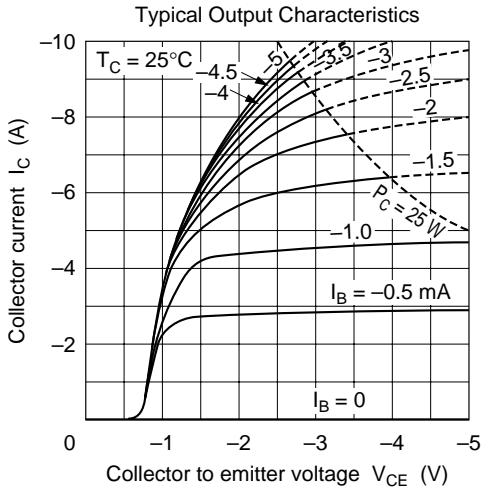
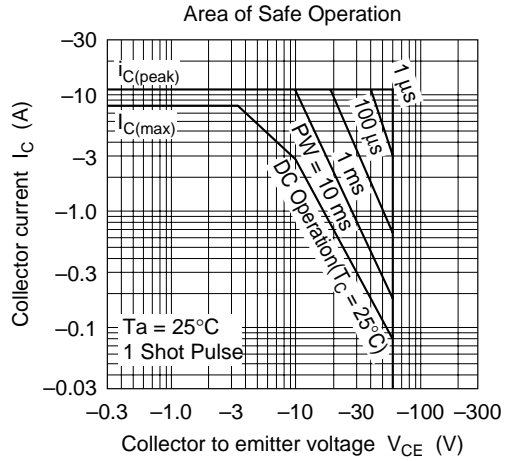
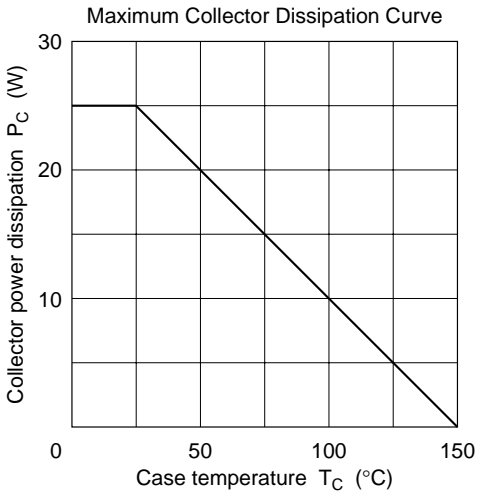
Note: 1. Value at $T_C = 25^\circ\text{C}$.

Electrical Characteristics (Ta = 25°C)

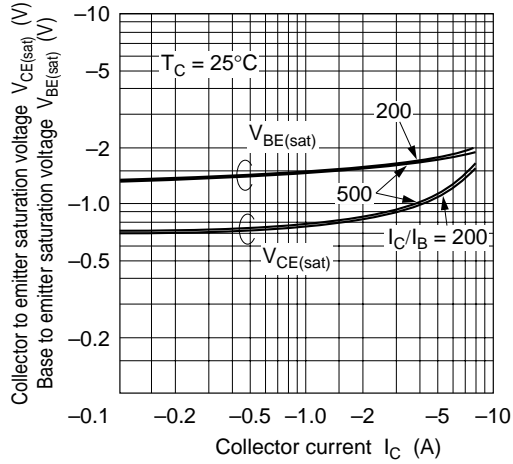
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-60	—	—	V	$I_C = -0.1 \text{ mA}, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-60	—	—	V	$I_C = -25 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-7	—	—	V	$I_E = -50 \text{ mA}, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-10	μA	$V_{CB} = -50 \text{ V}, I_E = 0$
	I_{CEO}	—	—	-10		$V_{CE} = -50 \text{ V}, R_{BE} = \infty$
DC current transfer 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	$I_D = 8 \text{ A}^{*1}$

Note: 1. Pulse test.

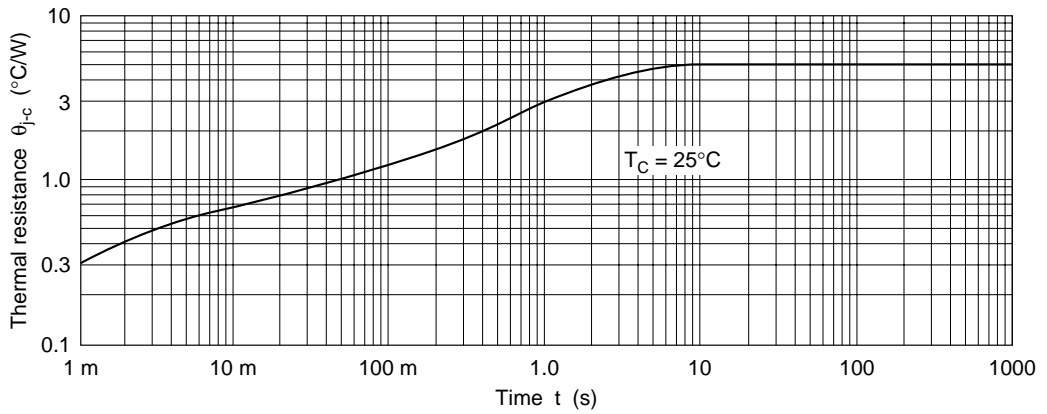
See switching characteristic curve of 2SB1103.



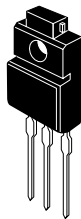
Saturation Voltage vs. Collector Current



Transient Thermal Resistance



Unit: mm



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

Cautions

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