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# 2SB1390

Silicon PNP Triple Diffused

# HITACHI

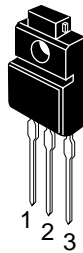
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## Application

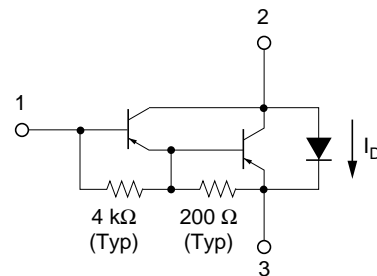
Low frequency power amplifier

## Outline

TO-220FM



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



## 2SB1390

### 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

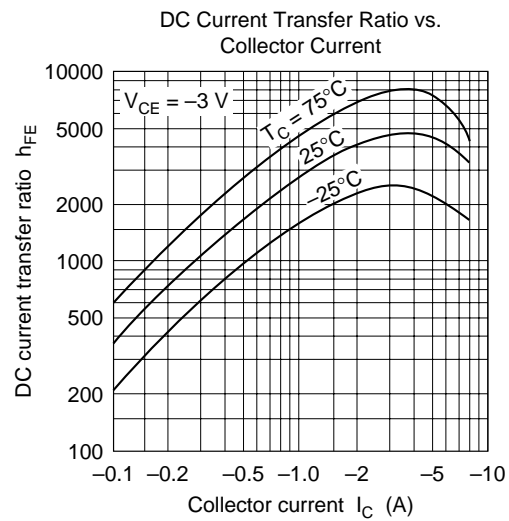
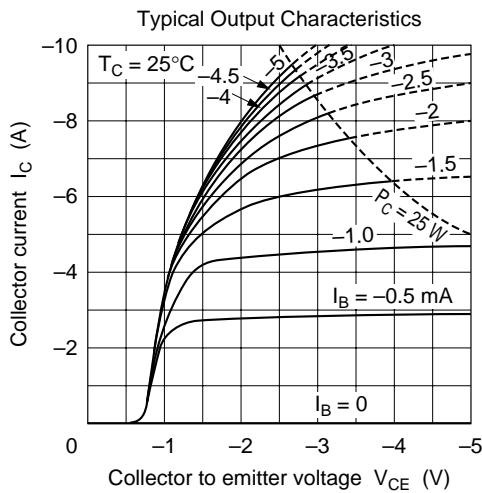
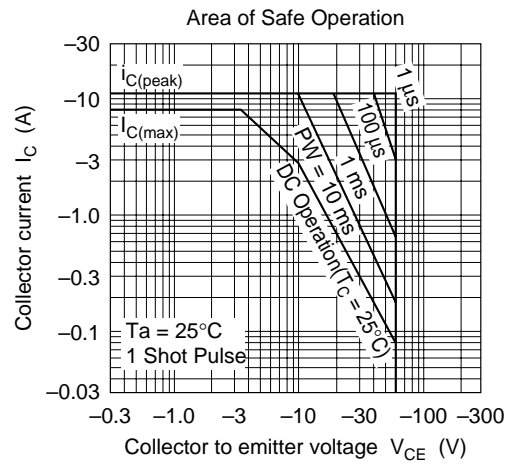
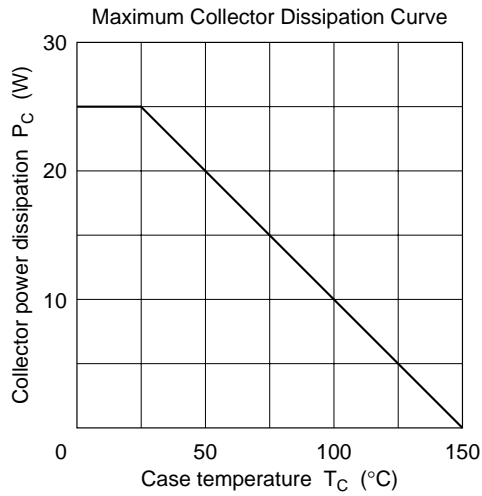
Note: 1. Value at  $T_C = 25^\circ\text{C}$ .

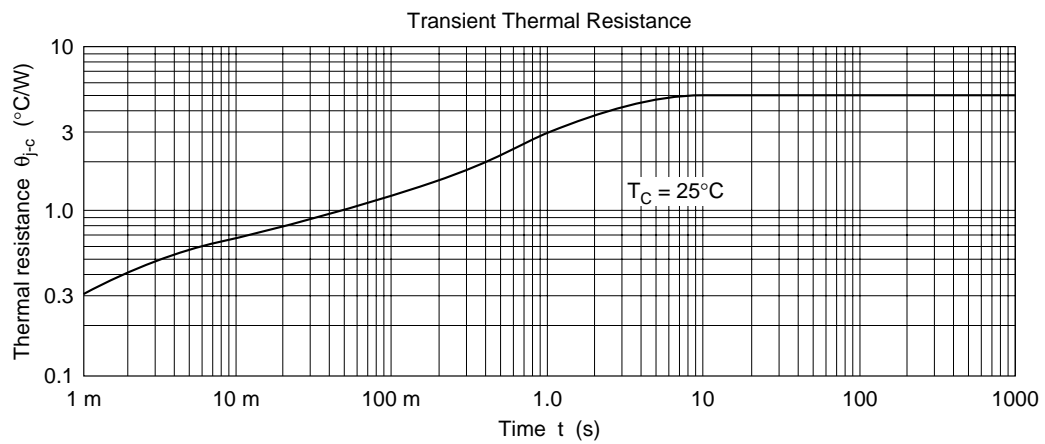
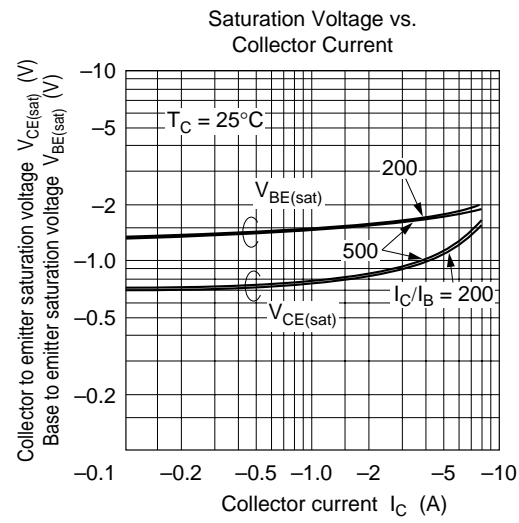
### Electrical Characteristics (Ta = 25°C)

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	$I_C = -25\text{ mA}$ , $R_{BE} =$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-7	—	—	V	$I_E = -50\text{ mA}$ , $I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	-10	$\mu\text{A}$	$V_{CB} = -50\text{ V}$ , $I_E = 0$
	$I_{CEO}$	—	—	-10		$V_{CE} = -50\text{ V}$ , $R_{BE} =$
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.





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