

2SB1401

Silicon PNP Triple Diffused

HITACHI

ADE-208-875 (Z)

1st. Edition

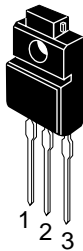
Sep. 2000

Application

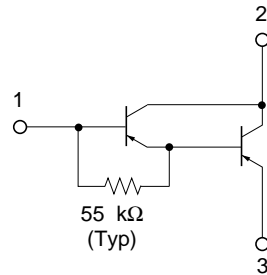
Low frequency power amplifier

Outline

TO-220FM



1. Base
2. Collector
3. Emitter



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	-300	V
Collector to emitter voltage	V_{CEO}	-300	V
Emitter to base voltage	V_{EBO}	-7	V
Collector current	I_{C}	-0.3	A
Collector peak current	$I_{\text{C(peak)}}$	-0.6	A
Collector power dissipation	P_{C}	2	W
	P_{C}^{*1}	15	
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

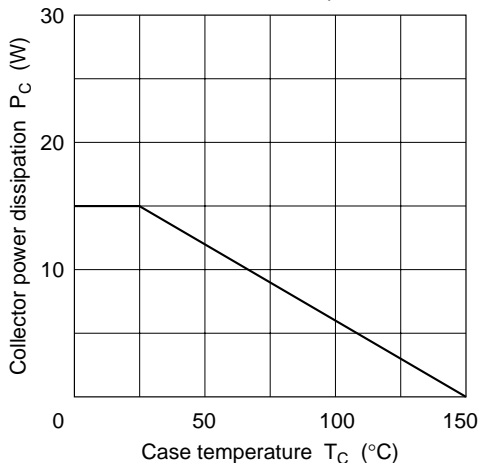
Note: 1. Value at $T_{\text{C}} = 25^\circ\text{C}$.

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

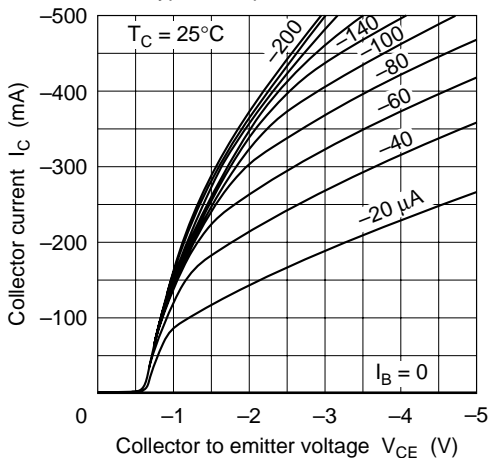
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	-300	—	—	V	$I_{\text{C}} = -1 \text{ mA}$, $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	-300	—	—	V	$I_{\text{C}} = -10 \text{ mA}$, $R_{\text{BE}} = \infty$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	-7	—	—	V	$I_{\text{E}} = -1 \text{ mA}$, $I_{\text{C}} = 0$
Collector cutoff current	I_{CBO}	—	—	-10	μA	$V_{\text{CB}} = -300 \text{ V}$, $I_{\text{E}} = 0$
	I_{CEO}	—	—	-10		$V_{\text{CE}} = -60 \text{ V}$, $R_{\text{BE}} = \infty$
	I_{EBO}	—	—	-10		$V_{\text{EB}} = -5 \text{ V}$, $I_{\text{C}} = 0$
DC current transfer ratio	h_{FE1}	1000	—	—		$V_{\text{CE}} = -1.5 \text{ V}$, $I_{\text{C}} = -20 \text{ mA}^{*1}$
	h_{FE2}	1500	—	—		$V_{\text{CE}} = -1.5 \text{ V}$, $I_{\text{C}} = -100 \text{ mA}^{*1}$
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	—	—	-1.5	V	$I_{\text{C}} = -100 \text{ mA}$, $I_{\text{B}} = -0.2 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{\text{BE(sat)}}$	—	—	-2.0	V	$I_{\text{C}} = -100 \text{ mA}$, $I_{\text{B}} = -0.2 \text{ mA}^{*1}$

Note: 1. Pulse test.

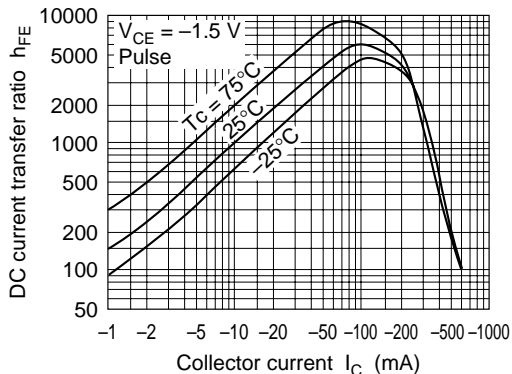
Maximum Collector Dissipation Curve



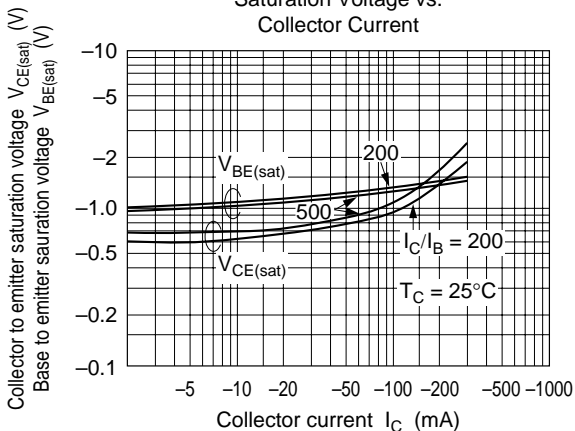
Typical Output Characteristics



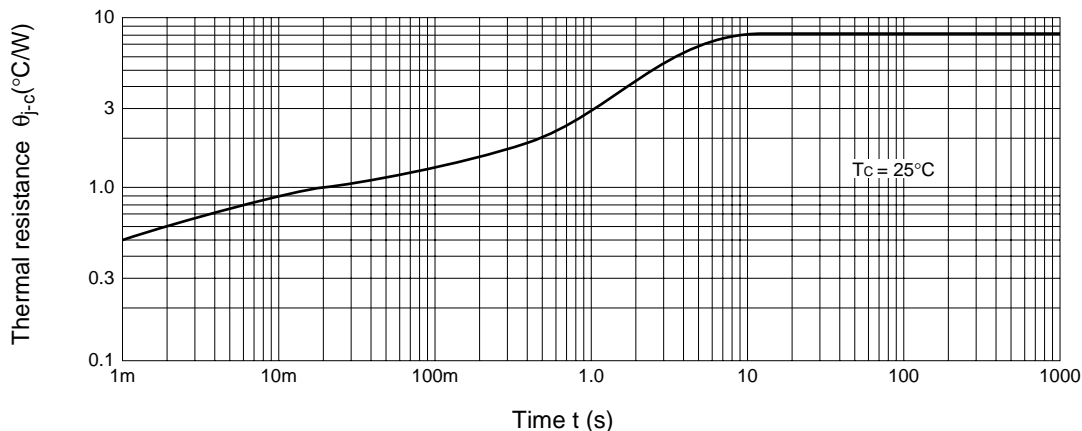
DC Current Transfer Ratio vs. Collector Current



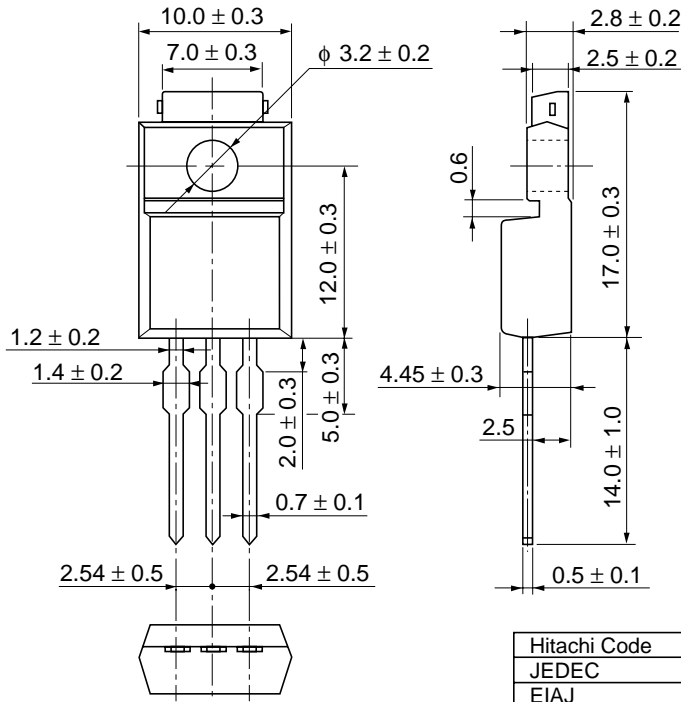
Saturation Voltage vs. Collector Current



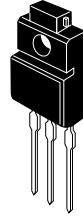
Transient Thermal Resistance



Package Dimensions



Unit: mm



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

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