

2SB1079

Silicon PNP Triple Diffused

HITACHI

ADE-208-866 (Z)

1st. Edition

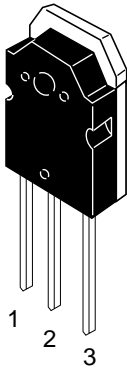
Sep. 2000

Application

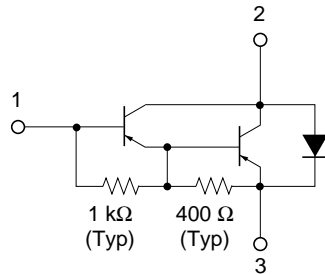
Low frequency power amplifier complementary pair with 2SD1559

Outline

TO-3P



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



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

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	-100	V
Collector to emitter voltage	V_{CEO}	-100	V
Emitter to base voltage	V_{EBO}	-7	V
Collector current	I_{C}	-20	A
Collector peak current	$I_{\text{C(peak)}}$	-30	A
Base current	I_{B}	-3	A
Collector power dissipation	P_{C}^{*1}	100	W
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

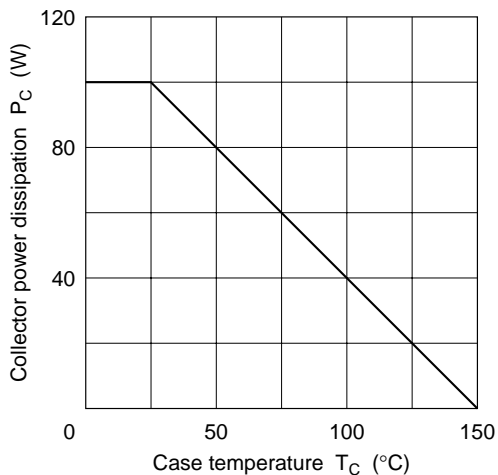
Note: 1. Value at $T_{\text{C}} = 25^\circ\text{C}$.

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

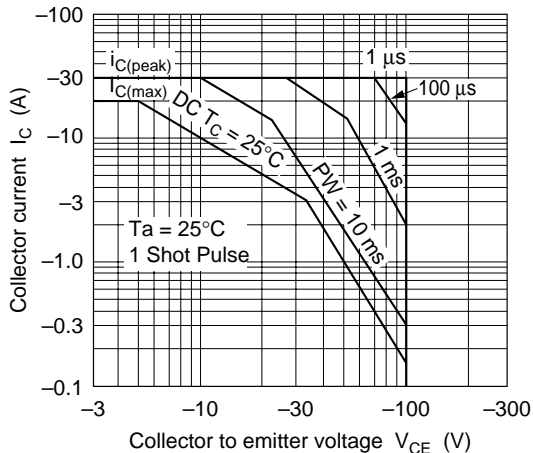
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	-100	—	—	V	$I_{\text{C}} = -0.1 \text{ mA}, I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	-100	—	—	V	$I_{\text{C}} = -25 \text{ mA}, R_{\text{BE}} = \infty$
Collector to emitter sustain voltage	$V_{\text{CEO(sus)}}$	-100	—	—	V	$I_{\text{C}} = -200 \text{ mA}, R_{\text{BE}} = \infty^{*1}$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	-7	—	—	V	$I_{\text{E}} = -50 \text{ mA}, I_{\text{C}} = 0$
Collector cutoff current	I_{CBO}	—	—	-100	μA	$V_{\text{CB}} = -100 \text{ V}, I_{\text{E}} = 0$
	I_{CEO}	—	—	-1.0	mA	$V_{\text{CE}} = -80 \text{ V}, R_{\text{BE}} = \infty$
DC current transfer ratio	h_{FE}	1000	—	20000		$V_{\text{CE}} = -3 \text{ V}, I_{\text{C}} = -10 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{\text{CE(sat)1}}$	—	—	-2.0	V	$I_{\text{C}} = -10 \text{ A}, I_{\text{B}} = -20 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{\text{BE(sat)1}}$	—	—	-2.5	V	
Collector to emitter saturation voltage	$V_{\text{CE(sat)2}}$	—	—	-3.0	V	$I_{\text{C}} = -20 \text{ A}, I_{\text{B}} = -200 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{\text{BE(sat)2}}$	—	—	-3.5	V	
Turn on time	t_{on}	—	0.6	—	μs	$I_{\text{C}} = -10 \text{ A}, I_{\text{B1}} = -I_{\text{B2}} = -20 \text{ mA}$
Storage time	t_{stg}	—	3.5	—	μs	

Note: 1. Pulse Test.

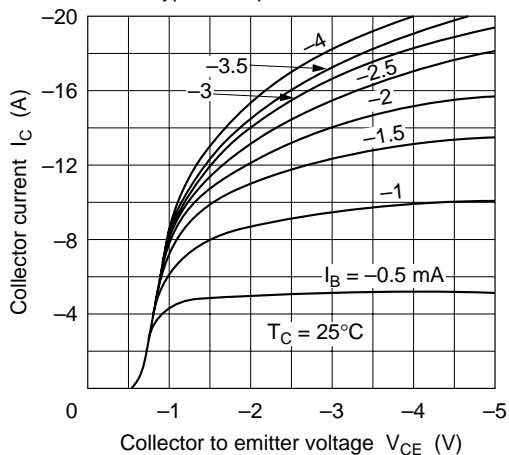
Maximum Collector Dissipation Curve



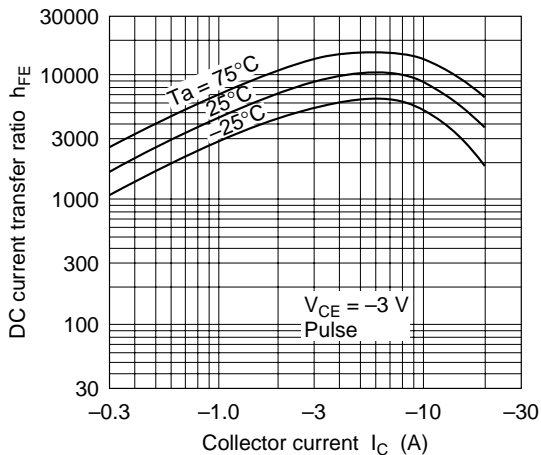
Area of Safe Operation



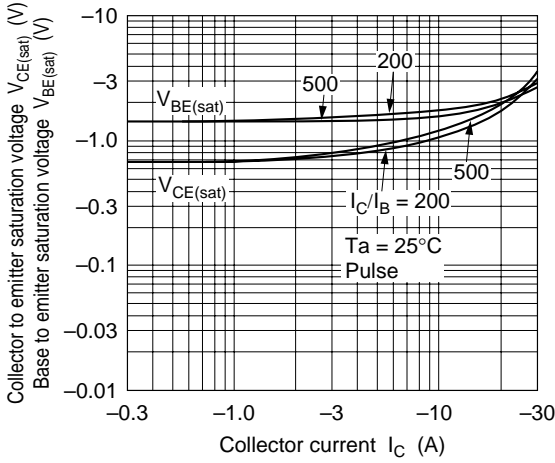
Typical Output Characteristics



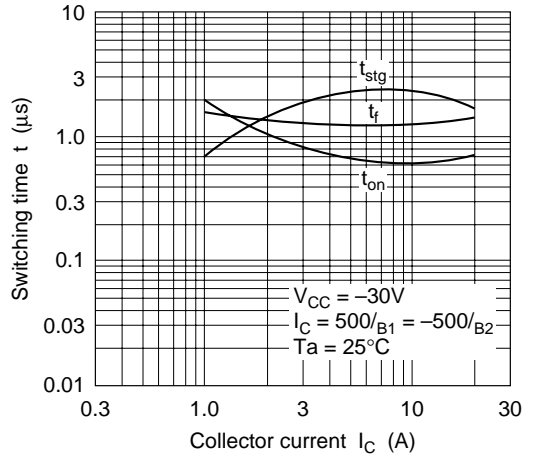
DC Current Transfer Ratio vs. Collector Current



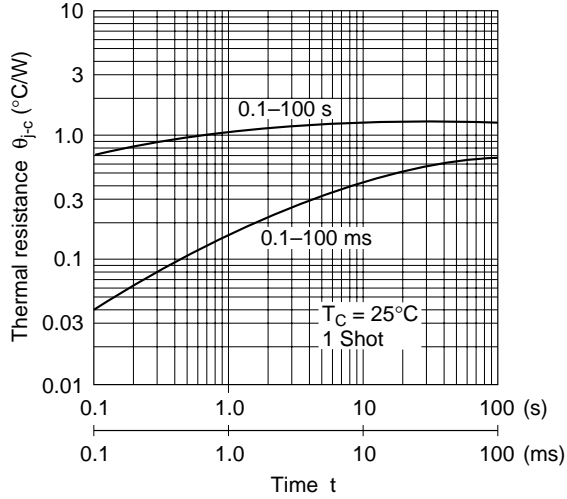
Saturation Voltage vs. Collector Current



Switching Time vs. Collector Current

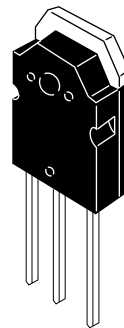
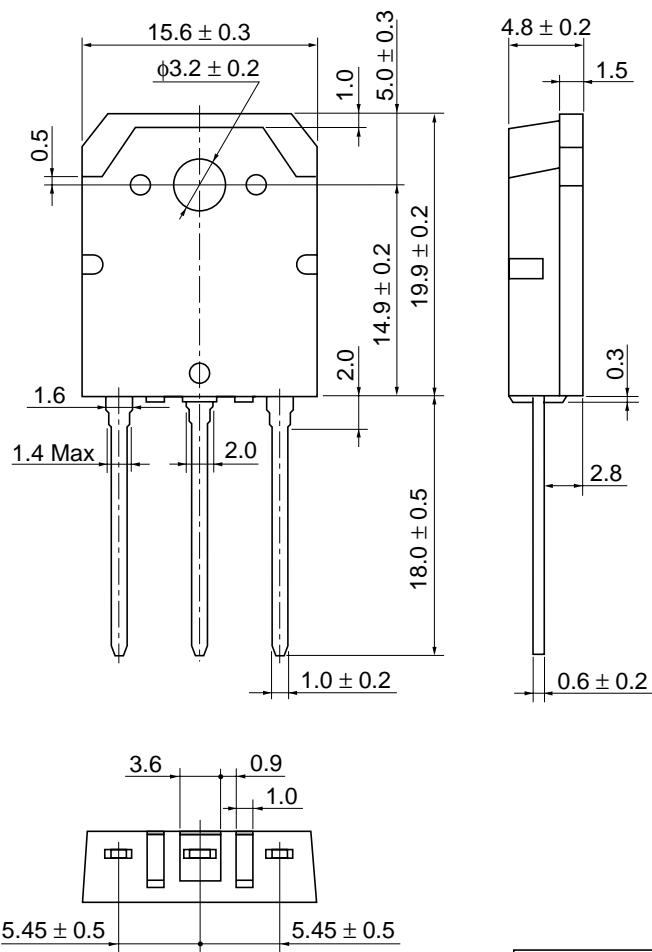


Transient Thermal Resistance



Package Dimensions

Unit: mm



Hitachi Code	TO-3P
JEDEC	—
EIAJ	Conforms
Mass (reference value)	5.0 g

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