
2SD1559

Silicon NPN Triple Diffused

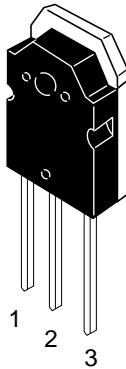
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Application

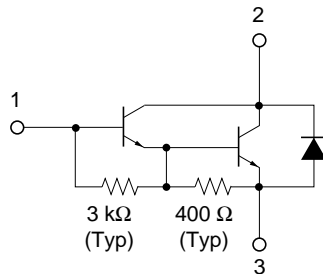
Low frequency power amplifier complementary pair with 2SB1079

Outline

TO-3P



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



Absolute Maximum Ratings (Ta = 25°C)

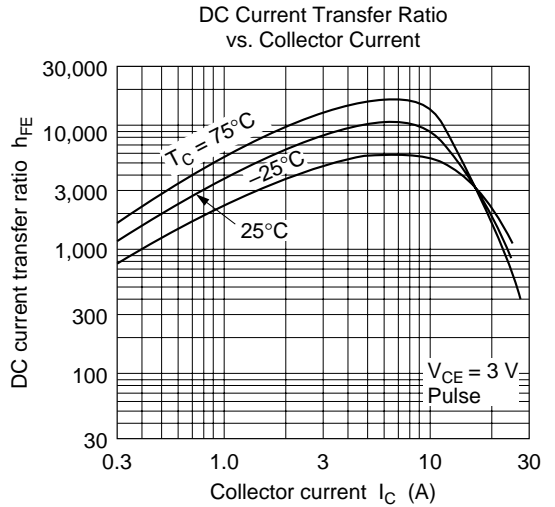
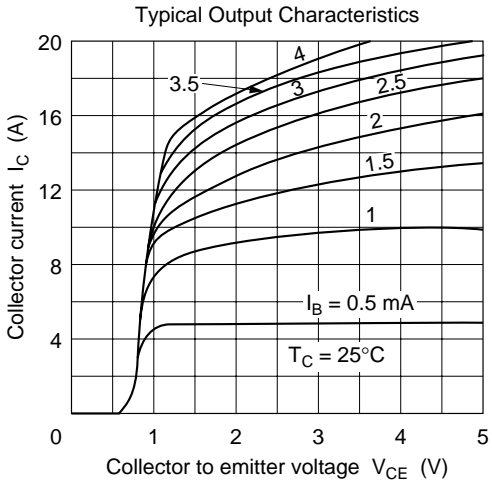
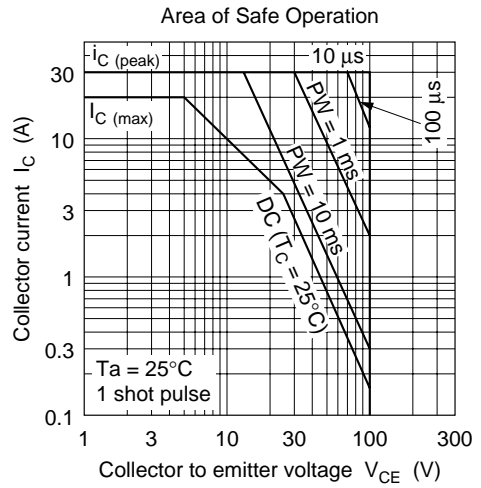
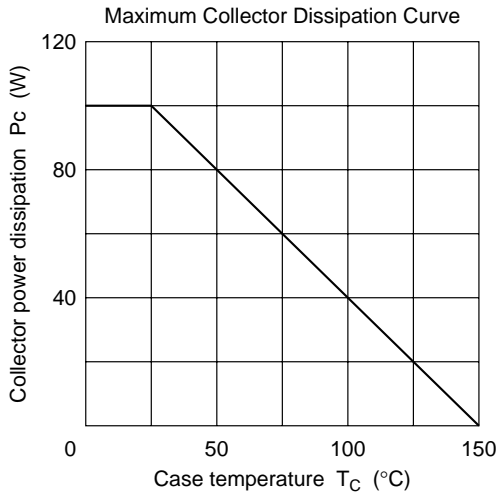
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	100	V
Collector to emitter voltage	V_{CEO}	100	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_C	20	A
Collector peak current	$I_{C(peak)}$	30	A
Base current	I_B	3	A
Collector power dissipation	P_C^{*1}	100	W
Junction temperature	T_j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

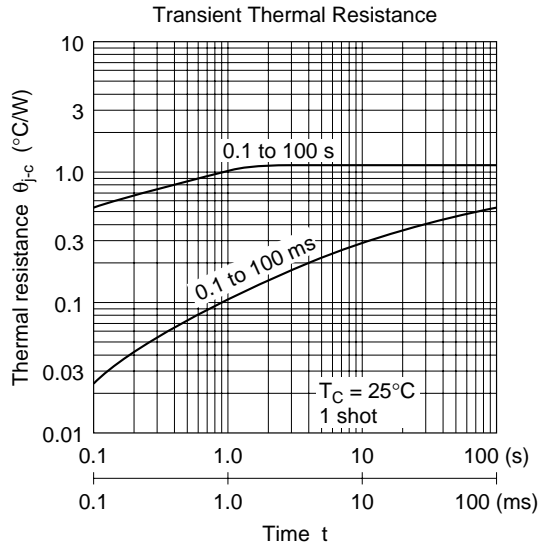
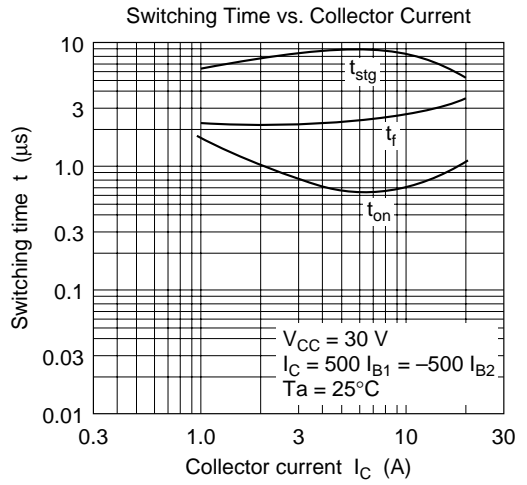
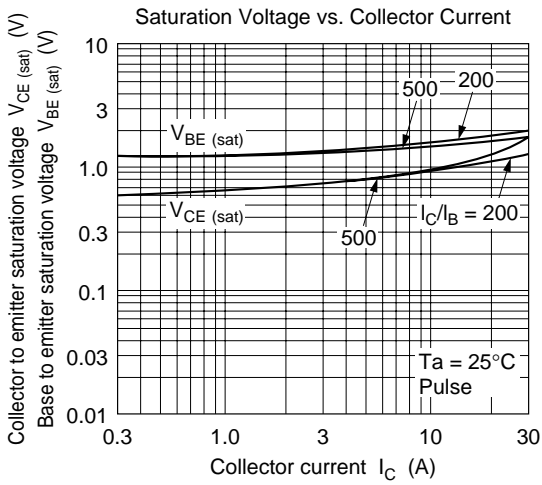
Note: 1. Value at $T_C = 25^\circ\text{C}$.

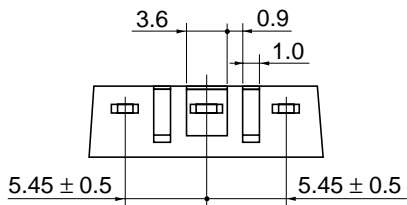
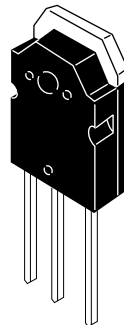
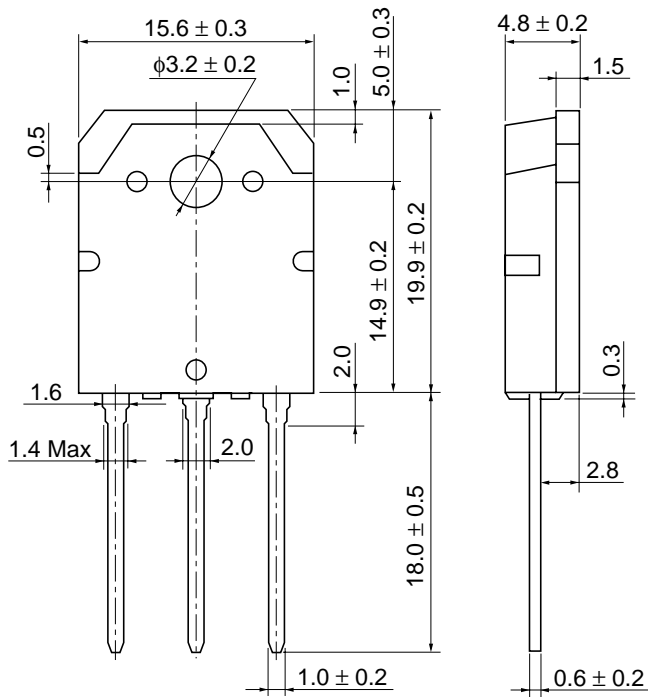
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	100	—	—	V	$I_C = 0.1 \text{ mA}, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	100	—	—	V	$I_C = 25 \text{ mA}, R_{BE} = \infty$
Collector to emitter sustain voltage	$V_{CEO(sus)}$	100	—	—	V	$I_C = 200 \text{ mA}, R_{BE} = \infty^{*1}$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$V_{EB} = 50 \text{ mA}, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	100	μA	$V_{CB} = 100 \text{ V}, I_E = 0$
	I_{CEO}	—	—	1.0	mA	$V_{CE} = 80 \text{ V}, R_{BE} = \infty$
DC current transfer ratio	h_{FE}	1000	—	20000		$V_{CE} = 3 \text{ V}, I_C = 10 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)1}$	—	—	2.0	V	$I_C = 10 \text{ A}, I_B = 20 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	2.5	V	
Collector to emitter saturation voltage	$V_{CE(sat)2}$	—	—	3.0	V	$I_C = 20 \text{ A}, I_B = 200 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)2}$	—	—	3.5	V	
Turn on time	t_{on}	—	1.0	—	μs	$I_C = 10 \text{ A}, I_{B1} = -I_{B2} = 20 \text{ mA}$
Storage time	t_{stg}	—	9.0	—	μs	
Fall time	t_f	—	3.0	—	μs	

Note: 1. Pulse test.







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

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