

2SB1101, 2SB1102

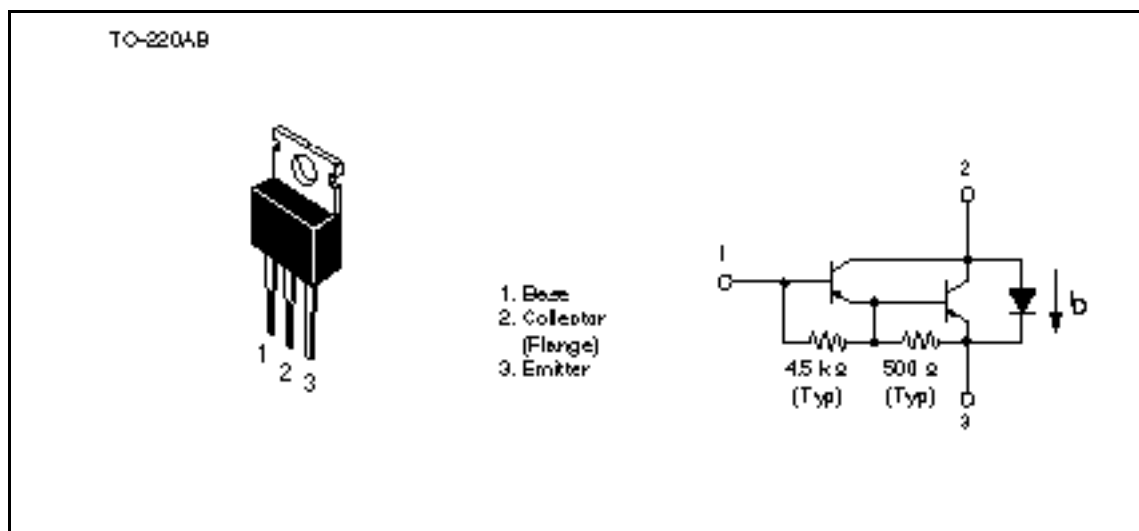
Silicon PNP Triple Diffused

HITACHI

Application

Low frequency power amplifier

Outline



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Absolute Maximum Ratings (Ta = 25°C)

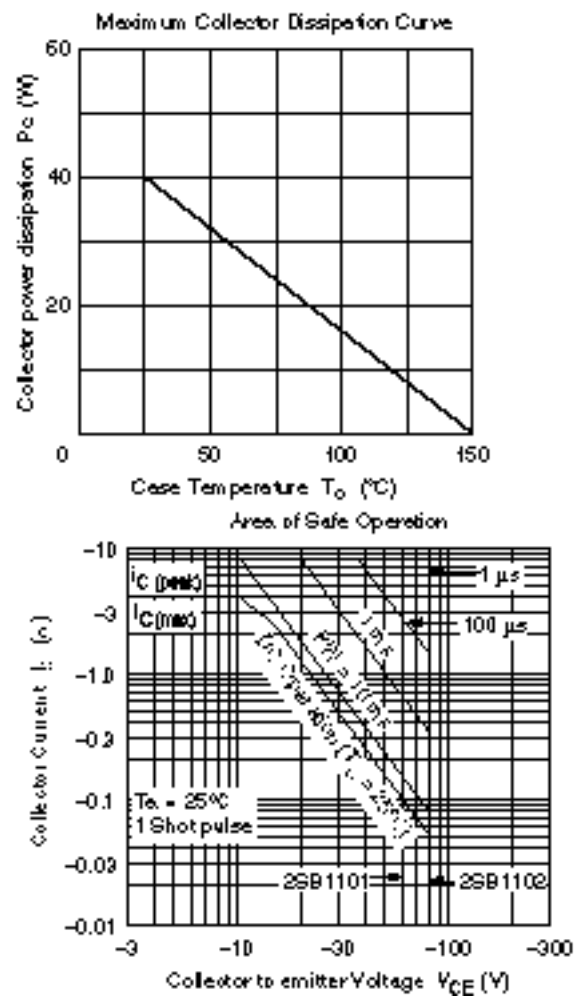
Item	Symbol	Ratings		Unit
		2SB1101	2SB1102	
Collector to base voltage	V_{CBO}	-60	-80	V
Collector to emitter voltage	V_{CEO}	-60	-80	V
Emitter to base voltage	V_{EBO}	-7	-7	V
Collector current	I_C	-4	-4	A
Collector peak current	$I_{C(peak)}$	-8	-8	A
Collector power dissipation	P_C^{*1}	40	40	W
Junction temperature	Tj	150	150	°C
Storage temperature	Tstg	-55 to +150	-55 to +150	°C
C to E diode forward current	I_D^{*1}	4	4	A

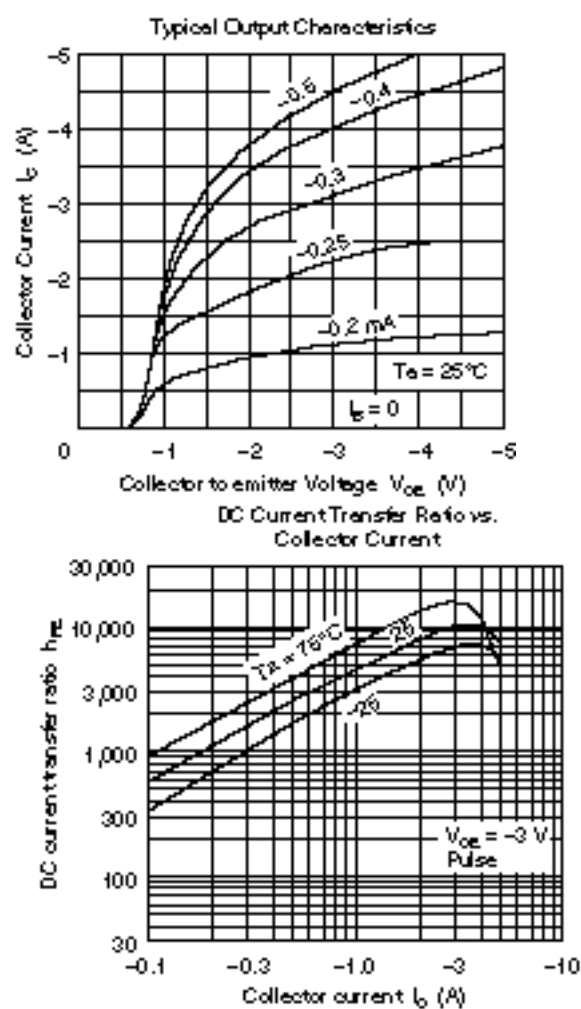
Note: 1. Value at $T_C = 25^\circ\text{C}$.

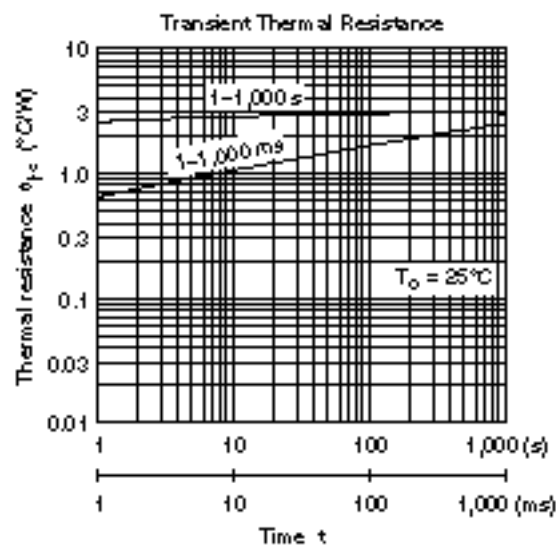
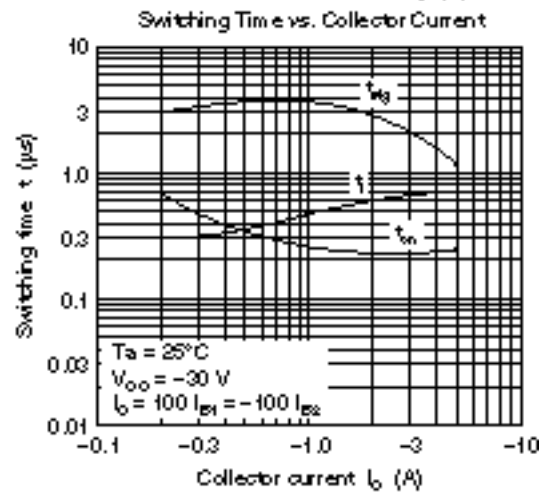
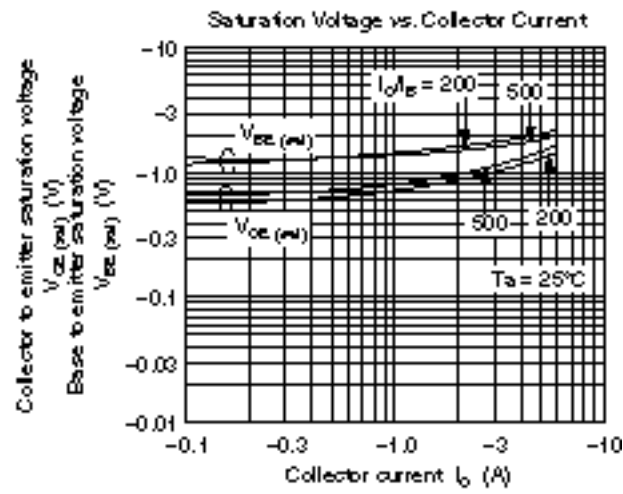
Electrical Characteristics (Ta = 25°C)

Item	Symbol	2SB1101			2SB1102			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-60	—	—	-80	—	—	V	$I_C = -25\text{ mA}$, $R_{BE} = \bullet$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-7	—	—	-7	—	—	V	$I_E = -50\text{ mA}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-100	—	—	-100	μA	$V_{CB} = -60\text{ V}$, $I_E = 0$
	I_{CEO}	—	—	-10	—	—	-10	μA	$V_{CE} = -50\text{ V}$, $R_{BE} = \bullet$
DC current transfer ratio	h_{FE}	1000	—	20000	1000	—	20000		$V_{CE} = -3\text{ V}$, $I_C = -2\text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)1}$	—	—	-1.5	—	—	-1.5	V	$I_C = -2\text{ A}$, $I_B = -4\text{ mA}^{*1}$
	$V_{CE(sat)2}$	—	—	-3.0	—	—	-3.0		$I_C = -4\text{ A}$, $I_B = -40\text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	-2.0	—	—	-2.0	V	$I_C = -2\text{ A}$, $I_B = -4\text{ mA}^{*1}$
	$V_{BE(sat)2}$	—	—	-3.5	—	—	-3.5		$I_C = -4\text{ A}$, $I_B = -40\text{ mA}^{*1}$
C to E diode forward voltage	V_D	—	—	3.0	—	—	3.0	V	$I_D = 4\text{ A}$
Turn on time	t_{on}	—	0.8	—	—	0.8	—	μs	$I_C = -2\text{ A}$,
Storage time	t_{stg}	—	4.0	—	—	4.0	—		$I_{B1} = -I_{B2} = -4\text{ mA}$
Fall time	t_f	—	1.0	—	—	1.0	—		

Note: 1. Pulse Test.







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