

2SB1470

Silicon PNP triple diffusion planar type darlington

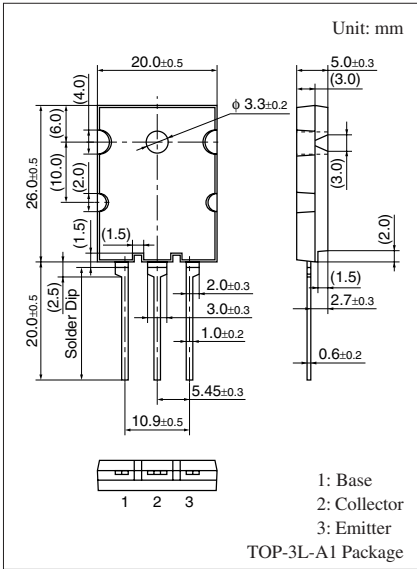
For power amplification
Complementary to 2SD2222

■ Features

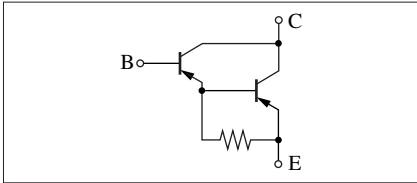
- Optimum for 120 W HiFi output
- High forward current transfer ratio h_{FE}
- Low collector-emitter saturation voltage $V_{CE(sat)}$

■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	-160	V
Collector-emitter voltage (Base open)	V_{CEO}	-160	V
Emitter-base voltage (Collector open)	V_{EBO}	-5	V
Collector current	I_C	-8	A
Peak collector current	I_{CP}	-15	A
Collector power dissipation	P_C	150	W
	$T_a = 25^\circ\text{C}$	3.5	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



Internal Connection



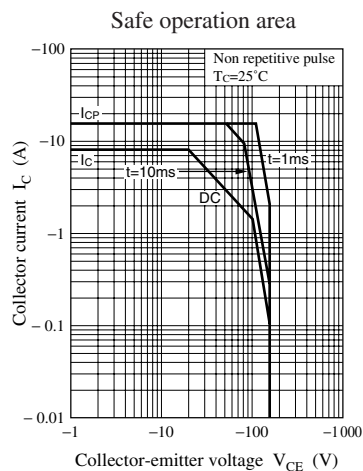
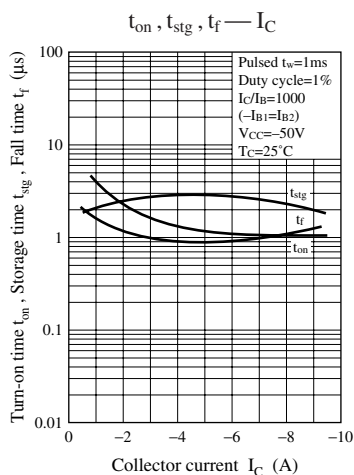
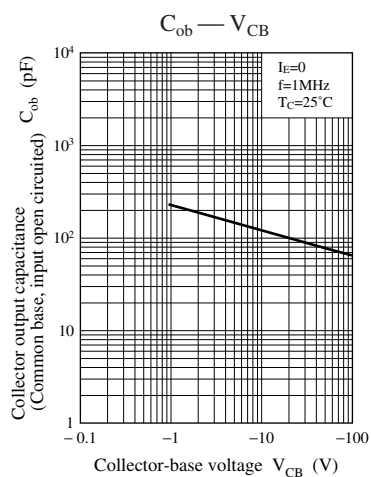
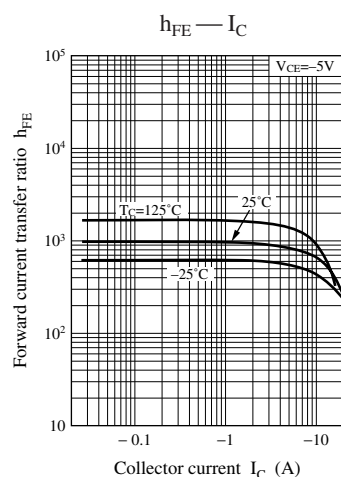
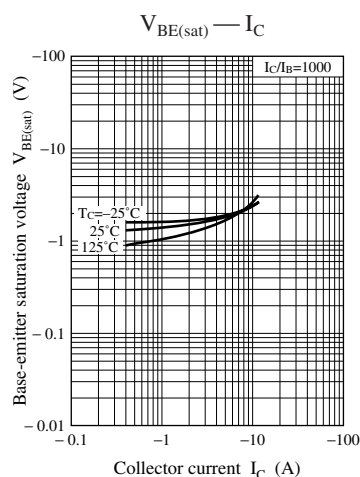
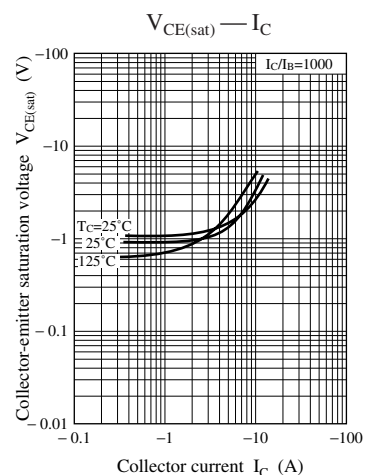
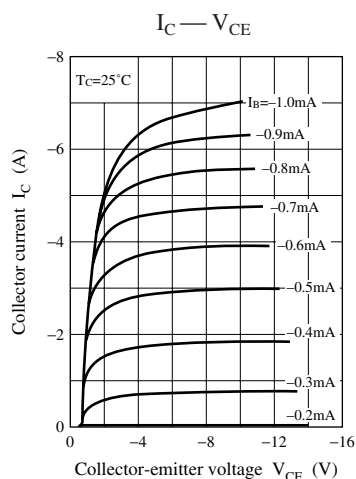
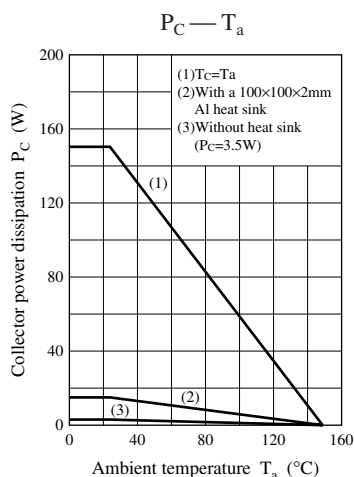
■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

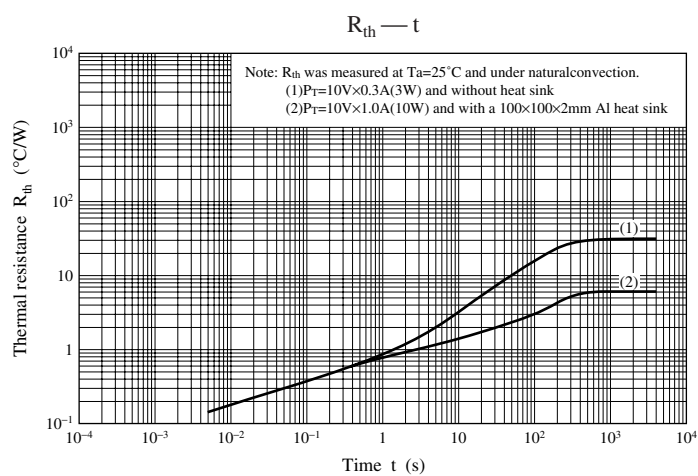
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -30 \text{ mA}, I_B = 0$	-160			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -160 \text{ V}, I_E = 0$			-100	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -160 \text{ V}, I_B = 0$			-100	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -5 \text{ V}, I_C = 0$			-100	μA
Forward current transfer ratio	h_{FE1}	$V_{CE} = -5 \text{ V}, I_C = -1 \text{ A}$	1 000			—
	h_{FE2}^*	$V_{CE} = -5 \text{ V}, I_C = -7 \text{ A}$	3 500		20 000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -7 \text{ A}, I_B = -7 \text{ mA}$			-3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -7 \text{ A}, I_B = -7 \text{ mA}$			-3	V
Transition frequency	f_T	$V_{CE} = -10 \text{ V}, I_C = -0.5 \text{ A}, f = 1 \text{ MHz}$		20		MHz
Turn-on time	t_{on}	$I_C = -7 \text{ A}, I_{B1} = -7 \text{ mA}, I_{B2} = 7 \text{ mA}$		1.0		μs
Storage time	t_{stg}	$V_{CC} = -50 \text{ V}$		1.5		μs
Fall time	t_f			1.2		μs

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

Rank	Q	S	P
h_{FE2}	3 500 to 10 000	5 000 to 15 000	7 000 to 20 000





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