

# 2SB1470

## Silicon PNP triple diffusion planar type darlington

For power amplification

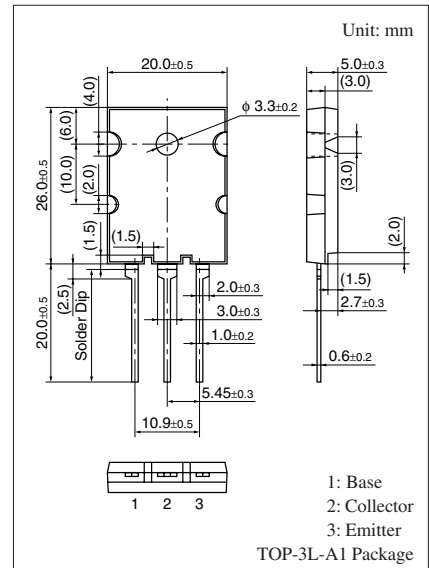
Complementary to 2SD2222

### ■ Features

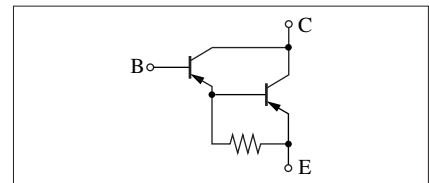
- Optimum for 120 W HiFi output
- High forward current transfer ratio  $h_{FE}$
- Low collector-emitter saturation voltage  $V_{CE(sat)}$

### ■ 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
		$T_a = 25^\circ\text{C}$	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



### Internal Connection



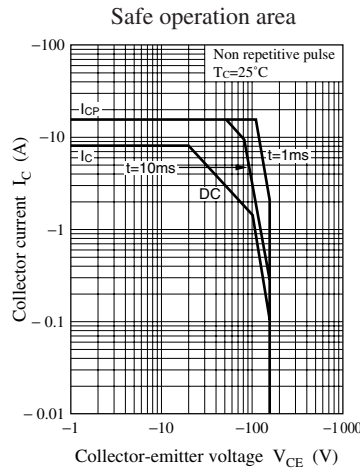
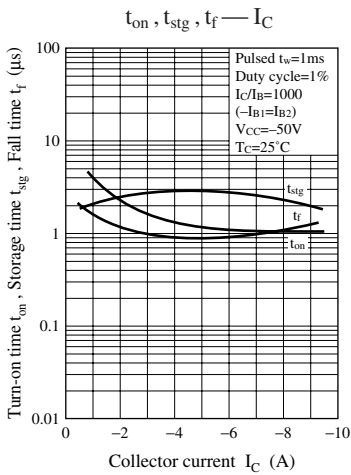
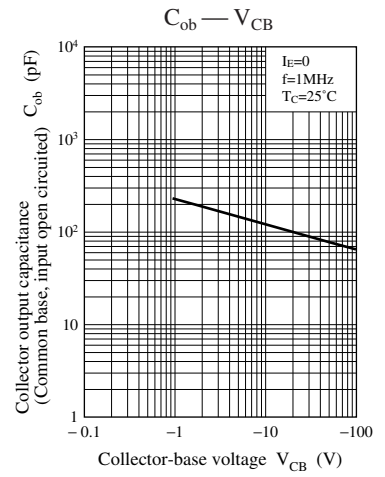
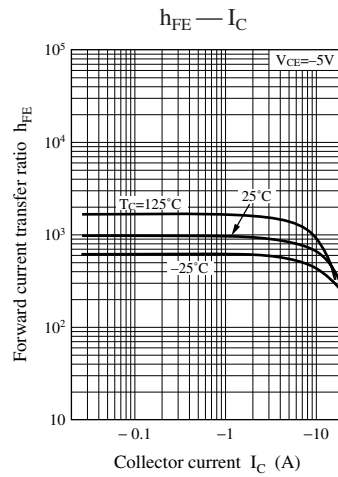
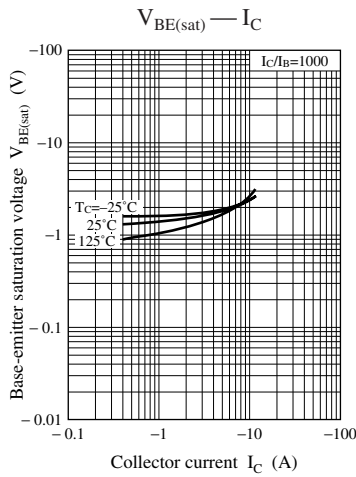
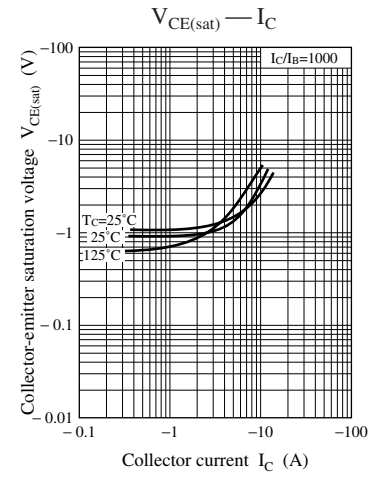
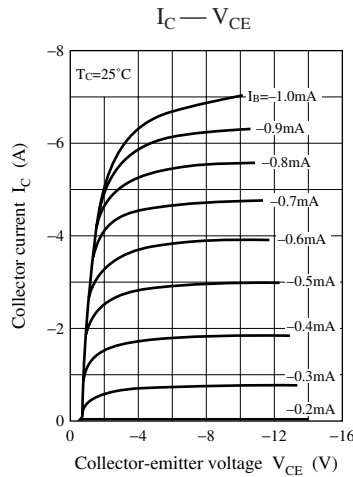
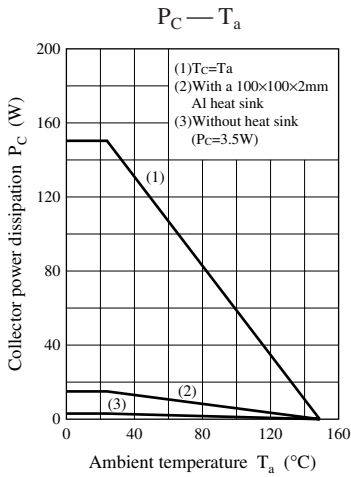
### ■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

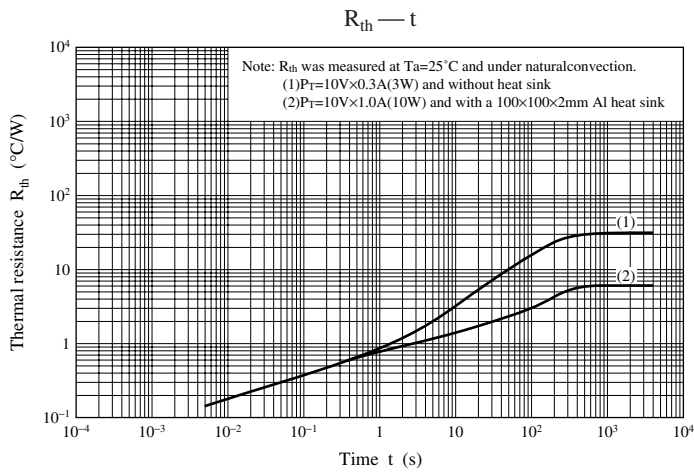
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = -30 \text{ mA}, I_B = 0$	-160			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = -160 \text{ V}, I_E = 0$			-100	$\mu\text{A}$
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = -160 \text{ V}, I_B = 0$			-100	$\mu\text{A}$
Emitter-base cutoff current (Collector open)	$I_{EBO}$	$V_{EB} = -5 \text{ V}, I_C = 0$			-100	$\mu\text{A}$
Forward current transfer ratio	$h_{FE1}$	$V_{CE} = -5 \text{ V}, I_C = -1 \text{ A}$	1000			—
	$h_{FE2}^*$	$V_{CE} = -5 \text{ V}, I_C = -7 \text{ A}$	3500		20000	
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		$\mu\text{s}$
Storage time	$t_{stg}$	$V_{CC} = -50 \text{ V}$		1.5		$\mu\text{s}$
Fall time	$t_f$			1.2		$\mu\text{s}$

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

2. \*: Rank classification

Rank	Q	S	P
$h_{FE2}$	3500 to 10000	5000 to 15000	7000 to 20000





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