

# 2SB1252

## Silicon PNP epitaxial planar type darlington

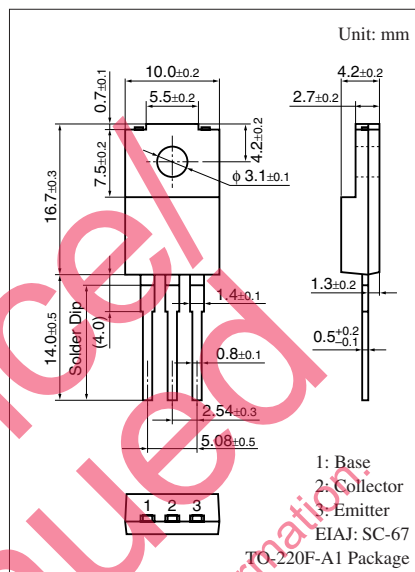
For power amplification

### ■ Features

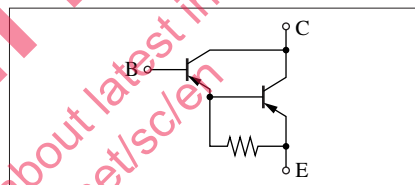
- Optimum for 35 W Hi-Fi output
- High forward current transfer ratio  $h_{FE}$
- Low collector-emitter saturation voltage  $V_{CE(sat)}$
- Full-pack package which can be installed to the heat sink with one screw.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	-120	V
Collector-emitter voltage (Base open)	$V_{CEO}$	-100	V
Emitter-base voltage (Collector open)	$V_{EBO}$	-5	V
Collector current	$I_C$	-5	A
Peak collector current	$I_{CP}$	-8	A
Collector power dissipation	$P_C$	45	W
		2	
	$T_a = 25^\circ\text{C}$		
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



### Internal Connection



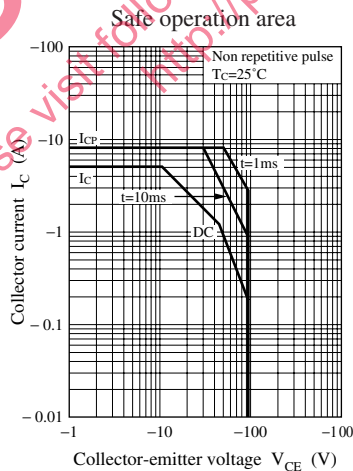
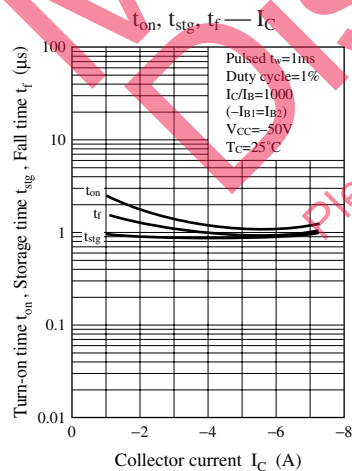
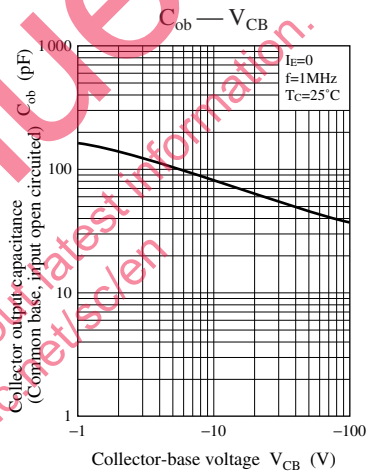
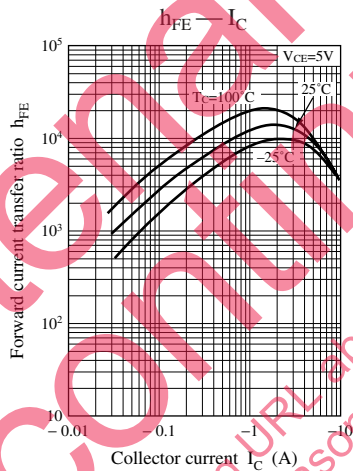
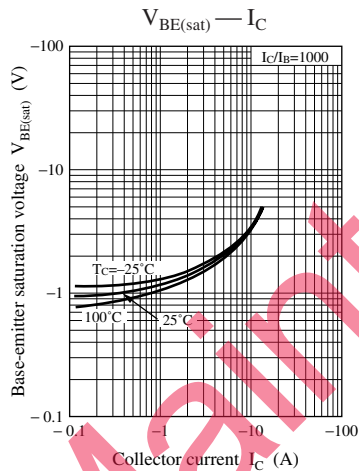
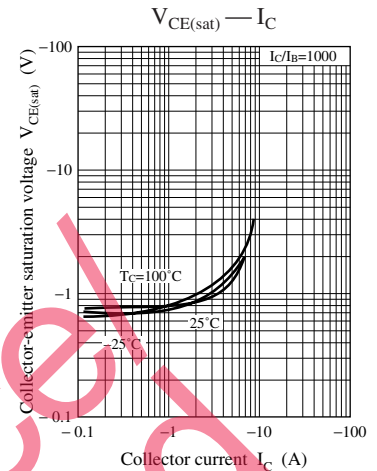
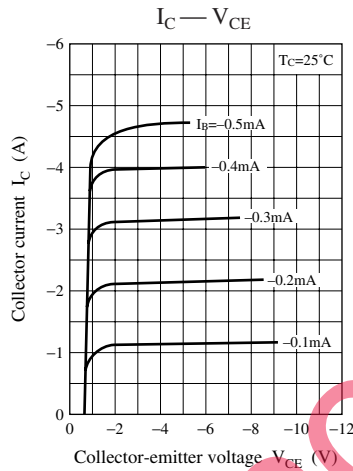
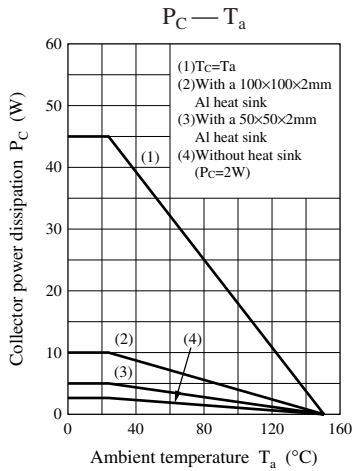
### ■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

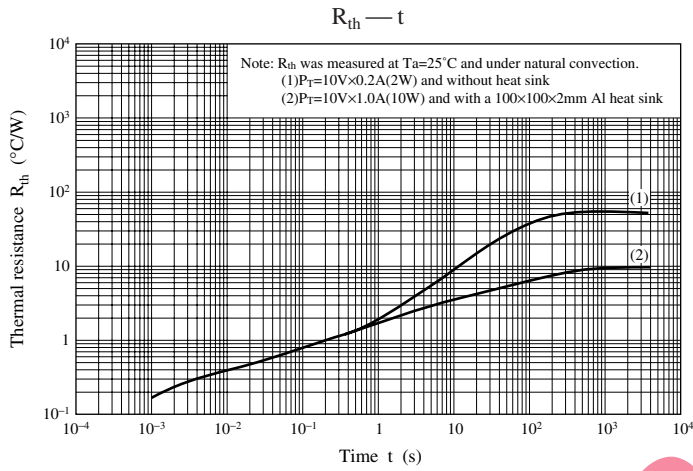
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = -30 \text{ mA}, I_B = 0$	-100			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = -120 \text{ V}, I_E = 0$			-100	$\mu\text{A}$
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = -100 \text{ V}, I_B = 0$			-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	$h_{FE1}$	$V_{CE} = -5 \text{ V}, I_C = -1 \text{ A}$	2000			—
	$h_{FE2}$	$V_{CE} = -5 \text{ V}, I_C = -4 \text{ A}$	5000		30000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -4 \text{ A}, I_B = -4 \text{ mA}$			-2.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -4 \text{ A}, I_B = -4 \text{ mA}$			-3.0	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	$t_{on}$	$I_C = -4 \text{ A}, I_{B1} = -4 \text{ mA}, I_{B2} = 4 \text{ mA}$		1.0		$\mu\text{s}$
Storage time	$t_{stg}$	$V_{CC} = -50 \text{ V}$		0.8		$\mu\text{s}$
Fall time	$t_f$			1.0		$\mu\text{s}$

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

2. \*: Rank classification

Rank	Q	P
$h_{FE2}$	5 000 to 15 000	8 000 to 30 000





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