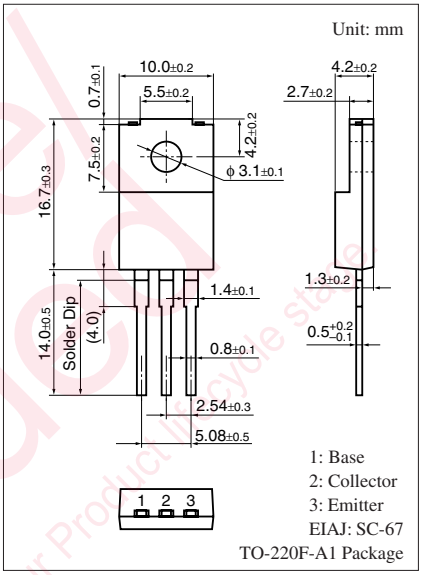
This product complies with the RoHS Directive (EU 2002/95/EC).

2SB1252

Silicon PNP epitaxial planar type darlington

For power amplification



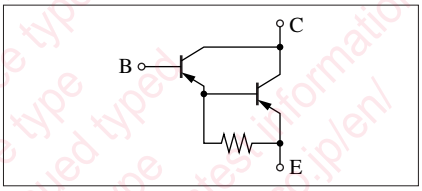
■ Features

- 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 $T_C = 25°C$

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
$T_a = 25°C$		2	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

Internal Connection



■ Electrical Characteristics $T_C = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -30$ mA, $I_B = 0$	−100			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -120$ V, $I_E = 0$			−100	µA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -100$ V, $I_B = 0$			−100	µA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -5$ V, $I_C = 0$			−100	µA
Forward current transfer ratio	h_{FE1}	$V_{CE} = -5$ V, $I_C = -1$ A	2 000			—
	h_{FE2} *	$V_{CE} = -5$ V, $I_C = -4$ A	5 000		30 000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -4$ A, $I_B = -4$ mA			−2.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -4$ A, $I_B = -4$ mA			−3.0	V
Transition frequency	f_T	$V_{CE} = -10$ V, $I_C = -0.5$ A, f = 1 MHz		20		MHz
Turn-on time	t_{on}	$I_C = -4$ A, $I_{B1} = -4$ mA, $I_{B2} = 4$ mA		1.0		µs
Storage time	t_{stg}	$V_{CC} = -50$ V		0.8		µs
Fall time	t_f			1.0		µs

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

Maintenance/Discontinued
Maintenance/Discontinued includes following four Product lifecycle stage
planed maintenance type
maintenance type
planed discontinued typed
discontinued type
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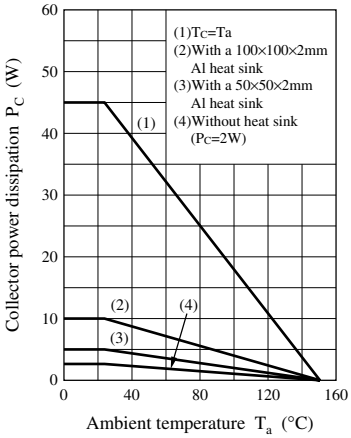
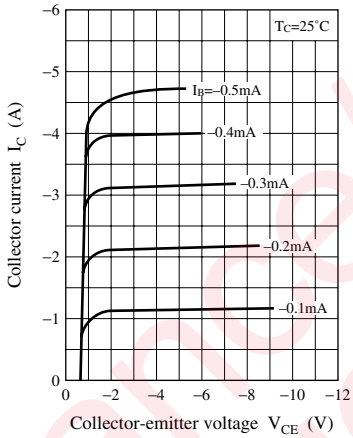
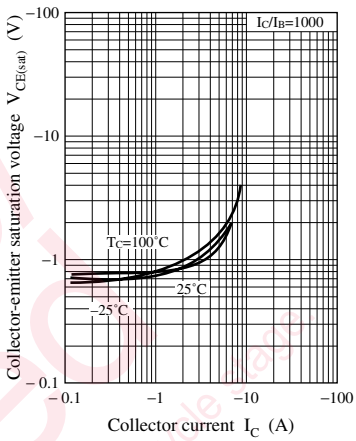
P_C — T_a



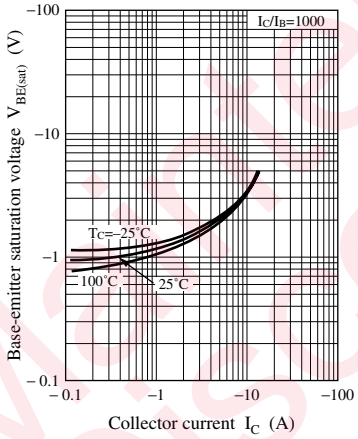
I_C — V_{CE}



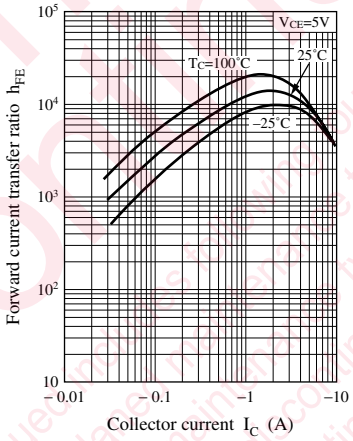
$V_{CE(sat)}$ — I_C



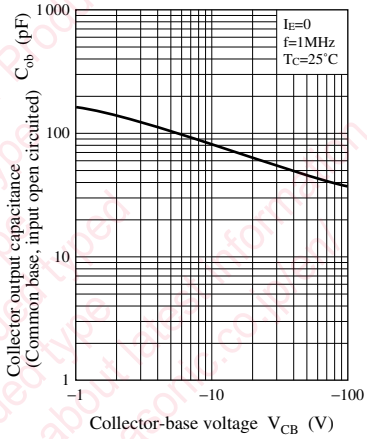
$V_{BE(sat)}$ — I_C



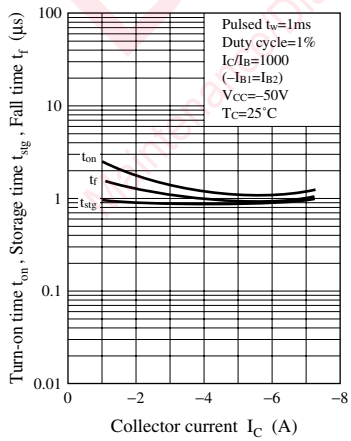
h_{FE} — I_C



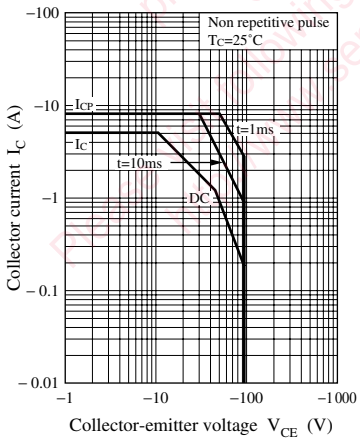
C_{ob} — V_{CB}



t_{on}, t_{stg}, t_f — I_C



Safe operation area



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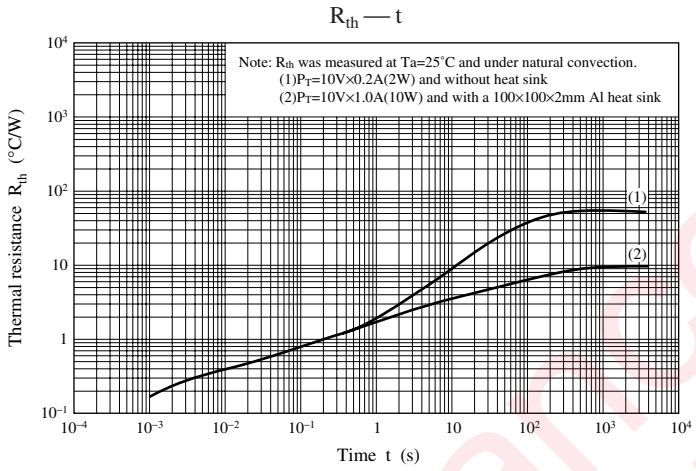
This product is discontinued. Please refer to our Product lifecycle page for maintenance or other information.



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