

2SD1975

Silicon NPN triple diffusion planar type

For high power amplification

Complementary to 2SB1317

■ Features

- Excellent collector current I_C characteristics of forward current transfer ratio h_{FE}
- Wide safe operation area
- High transition frequency f_T
- Optimum for the output stage of a HiFi audio amplifier

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	180	V
Collector-emitter voltage (Base open)	V_{CEO}	180	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	15	A
Peak collector current	I_{CP}	25	A
Collector power dissipation	P_C	150	W
		3.5	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

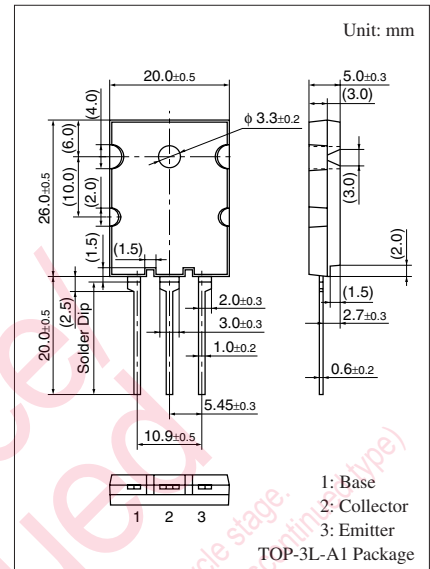
■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

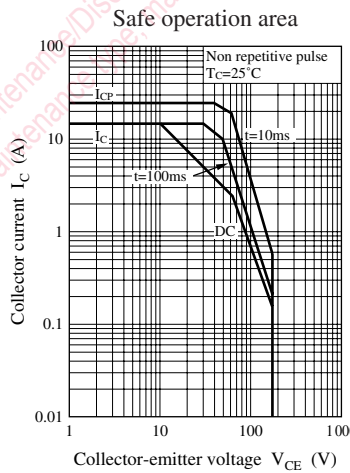
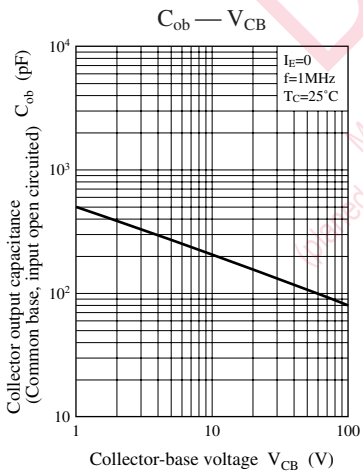
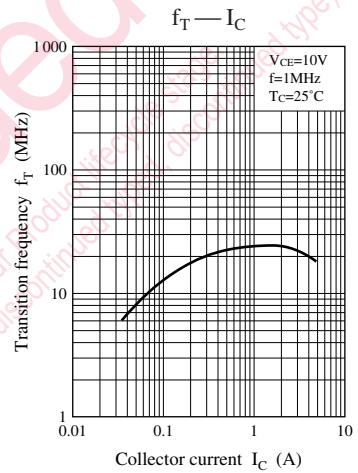
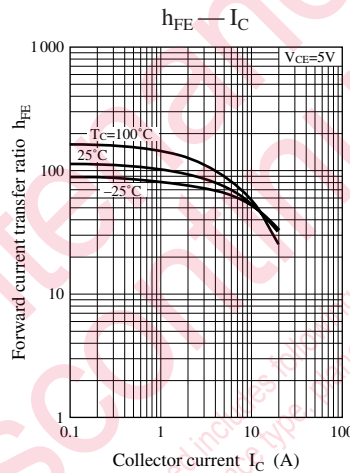
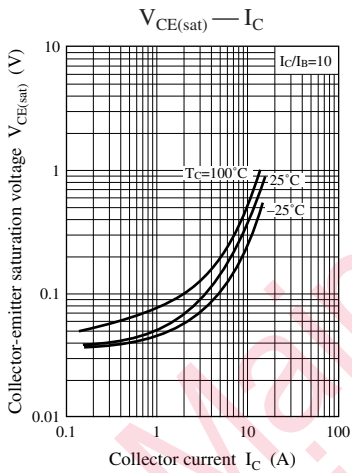
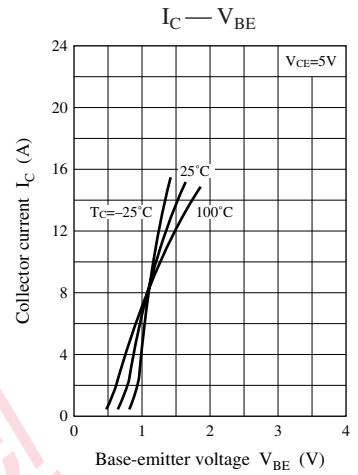
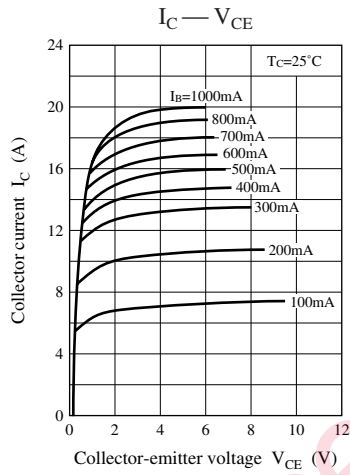
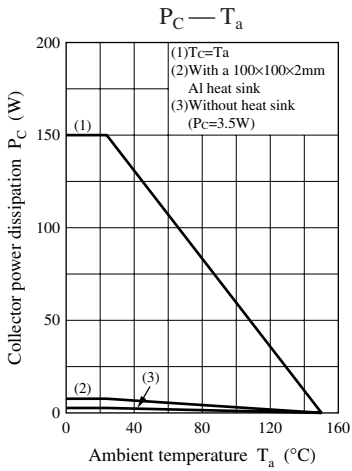
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Base-emitter voltage	V_{BE}	$V_{CE} = 5\text{ V}, I_E = 8\text{ A}$			1.8	V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 180\text{ V}, I_E = 0$			50	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 3\text{ V}, I_C = 0$			50	μA
Forward current transfer ratio	h_{FE1}	$V_{CE} = 5\text{ V}, I_C = 20\text{ mA}$	20			—
	h_{FE2}^*	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	60		200	
	h_{FE3}	$V_{CE} = 5\text{ V}, I_C = 8\text{ A}$	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\text{ A}, I_B = 1\text{ A}$			2.5	V
Transition frequency	f_T	$V_{CE} = 5\text{ V}, I_C = 0.5\text{ A}, f = 1\text{ MHz}$		20		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		200		pF

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

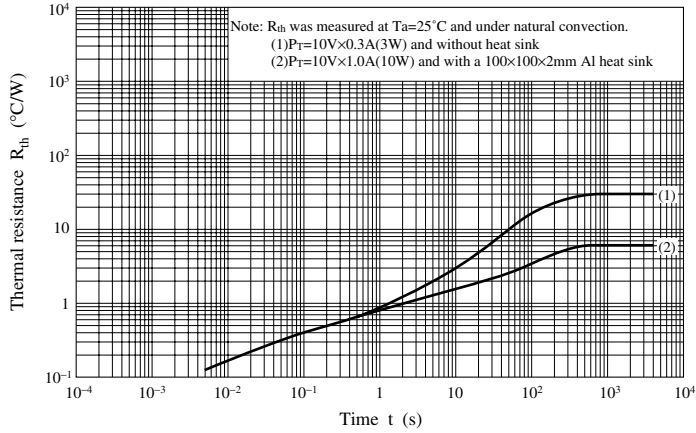
2. *: Rank classification

Rank	Q	S	P
h_{FE2}	60 to 120	80 to 160	100 to 200





$R_{th} - t$



Maintenance/Discontinued

Maintenance/Discontinued includes following four Product lifecycle stage.
 (planned maintenance type, maintenance type, planned discontinued type, discontinued type)

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