

2SD1499

Silicon NPN triple diffusion planar type

For high power amplification

Complementary to 2SB1063

■ Features

- Extremely satisfactory linearity of the forward current transfer ratio h_{FE}
- Wide safe operation area
- High transition frequency f_T
- 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}	100	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	40	W
	$T_a = 25^\circ\text{C}$	2.0	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

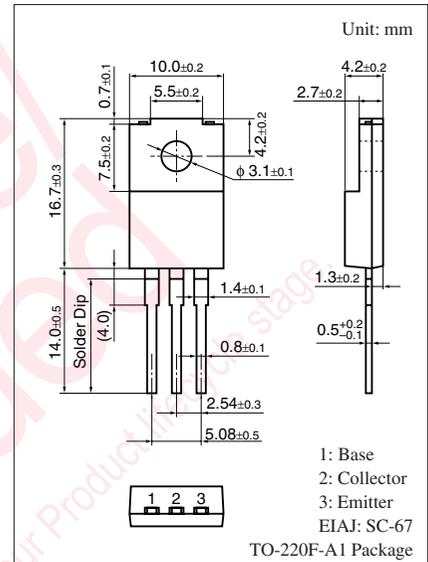
■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

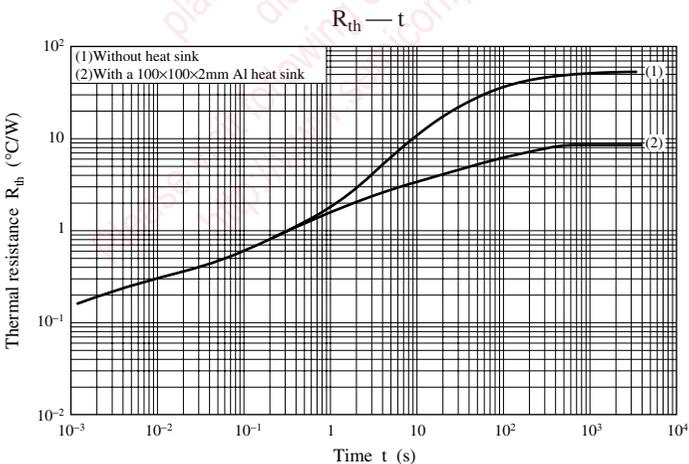
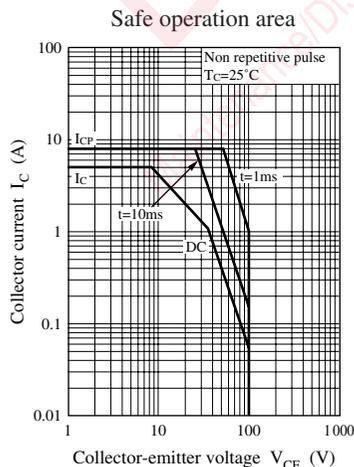
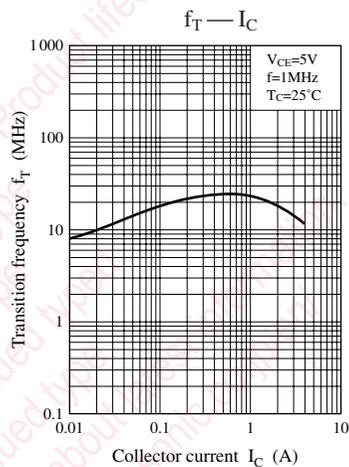
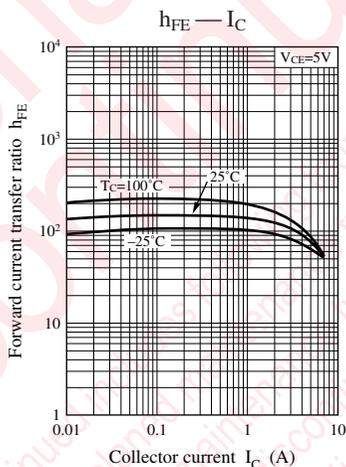
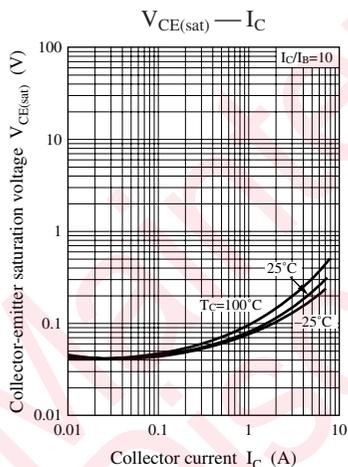
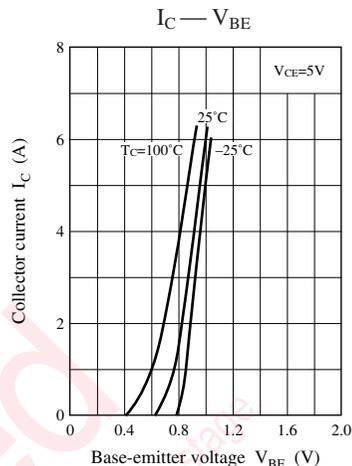
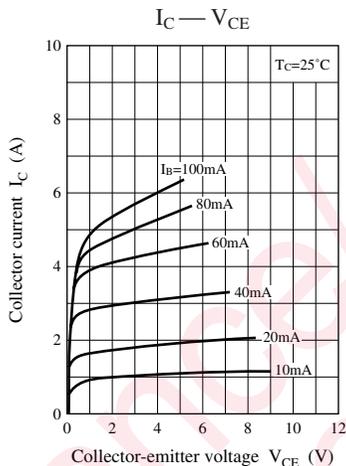
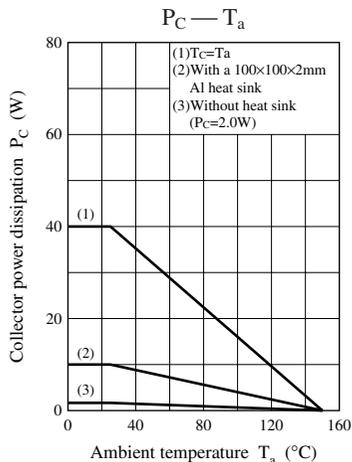
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Base-emitter voltage	V_{BE}	$V_{CE} = 5\text{ V}, I_C = 3\text{ A}$			1.8	V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 100\text{ V}, I_E = 0$			50	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 3\text{ V}, I_C = 0$			50	μA
Forward current transfer ratio	h_{FE1}	$V_{CE} = 5\text{ V}, I_C = 20\text{ mA}$	20			—
	h_{FE2}^*	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	40		200	
	h_{FE3}	$V_{CE} = 5\text{ V}, I_C = 3\text{ A}$	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3\text{ A}, I_B = 0.3\text{ A}$			2.0	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}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		90		pF

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

2. *: Rank classification

Rank	R	Q	P
h_{FE2}	40 to 80	60 to 120	100 to 200





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