

2SD1535

Silicon NPN triple diffusion planar type darlington

For high power amplification

■ Features

- Excellent collector current I_C characteristics of forward current transfer ratio h_{FE}
- High collector-base voltage (Emitter open) V_{CBO}
- Wide safe operation area
- Full-pack package which can be installed to the heat sink with one screw

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

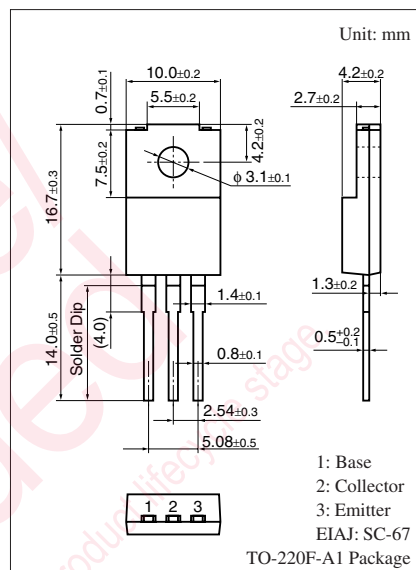
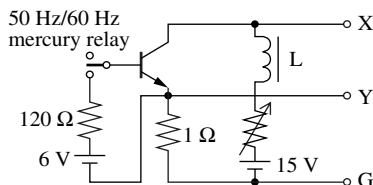
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	500	V
Collector-emitter voltage (Base open)	V_{CEO}	400	V
Emitter-base voltage (Collector open)	V_{EBO}	12	V
Collector current	I_C	7	A
Peak collector current	I_{CP}	14	A
Base current	I_B	0.5	A
Collector power dissipation	P_C	50	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 $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

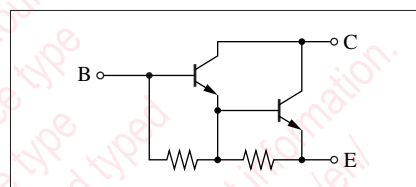
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter sustaining voltage *	$V_{CEO(SUS)}$	$I_C = 100\text{ mA}$, $R_{BE} = \infty$, $L = 25\text{ mH}$	400			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 500\text{ V}$, $I_E = 0$			100	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = 400\text{ V}$, $I_B = 0$			100	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 12\text{ V}$, $I_C = 0$			100	mA
Forward current transfer ratio	h_{FE1}	$V_{CE} = 2\text{ V}$, $I_C = 2\text{ A}$	500			—
	h_{FE2}	$V_{CE} = 2\text{ V}$, $I_C = 6\text{ A}$	200			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 7\text{ A}$, $I_B = 70\text{ mA}$			2.0	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 7\text{ A}$, $I_B = 70\text{ mA}$			2.5	V
Transition frequency	f_T	$V_{CE} = 10\text{ V}$, $I_C = 0.5\text{ A}$, $f = 1\text{ MHz}$		20		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$		70		pF
Turn-on time	t_{on}	$I_C = 7\text{ A}$, $I_{B1} = 70\text{ mA}$, $I_{B2} = -70\text{ mA}$,		1.5		μs
Storage time	t_{stg}	$V_{CC} = 300\text{ V}$		5.0		μs
Fall time	t_f			6.5		μs

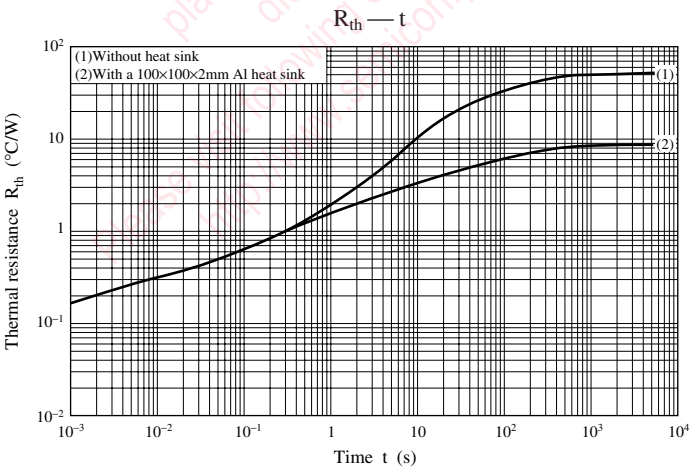
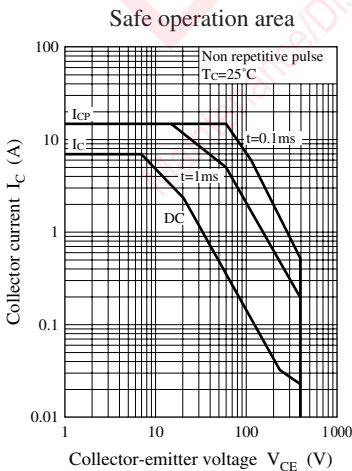
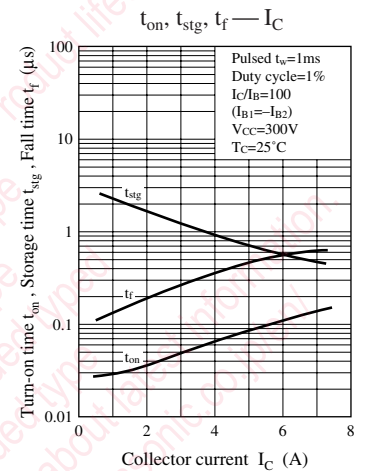
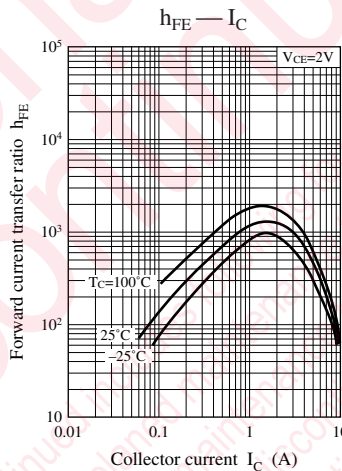
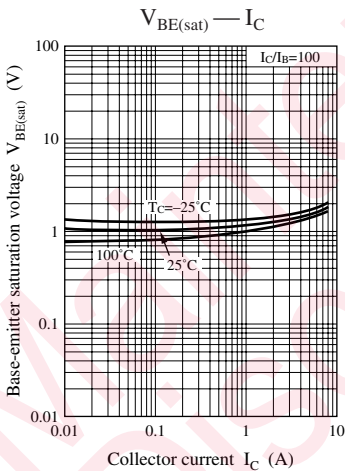
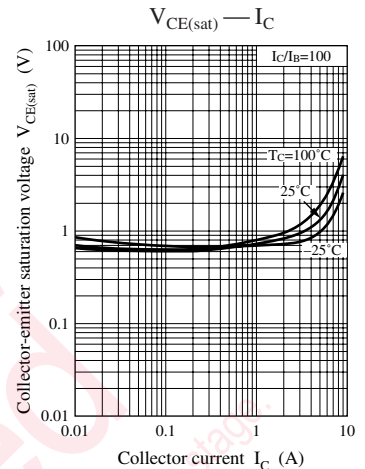
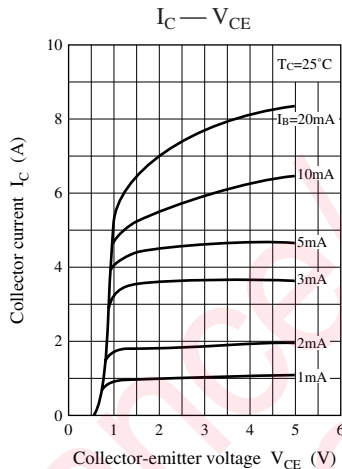
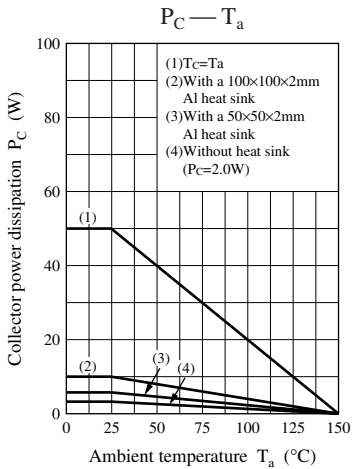
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: $V_{CEO(SUS)}$ Test circuit



Internal Connection





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