

2SD1849

Silicon NPN Triple-Diffused Planar Type

Horizontal Deflection Output

■ Features

- Damper diode built-in
- Minimizes external component counts and simplifies circuitry
- High breakdown voltage, high reliability
- High speed switching
- Wide area of safety operation (ASO)
- "Full Pack" package for simplified mounting on a heat sink with one screw

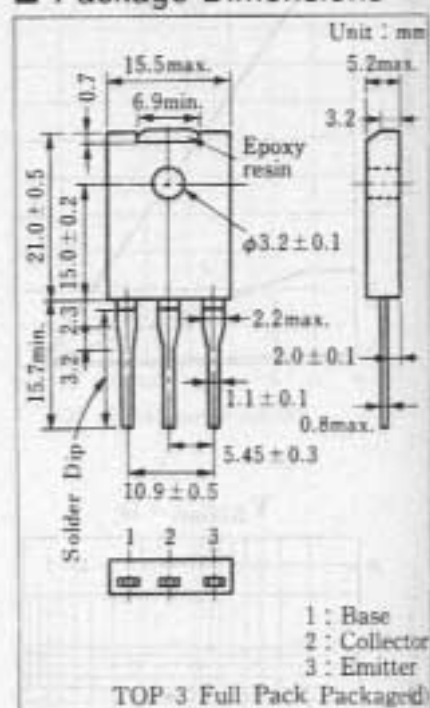
■ Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CB0}	1500	V
Collector-emitter voltage	V_{CES}	1500	V
	V_{CEO}	700	V
Emitter-base voltage	V_{EB0}	7	V
Peak collector current	I_{CP}	20	A
Collector current	I_C	7	A
Base current	I_B	3	A
Collector power dissipation	P_C	120	W
		3	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

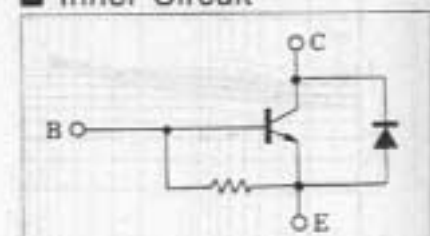
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

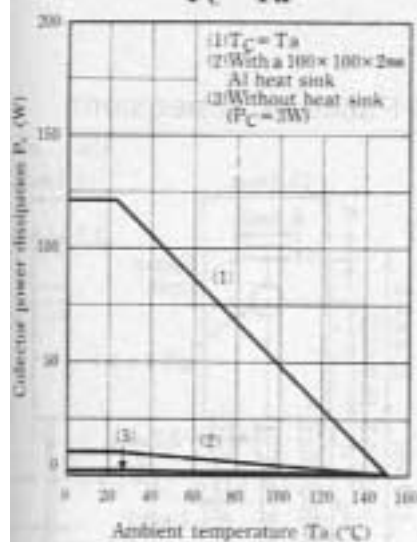
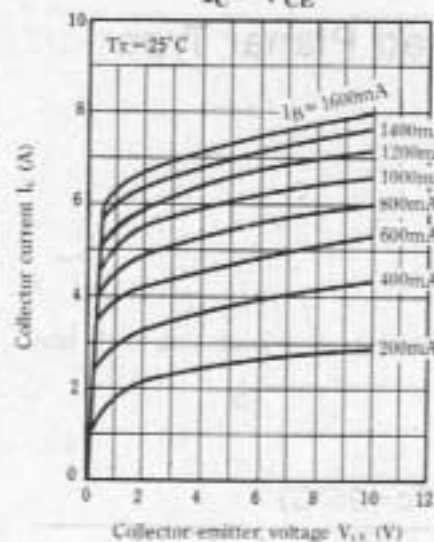
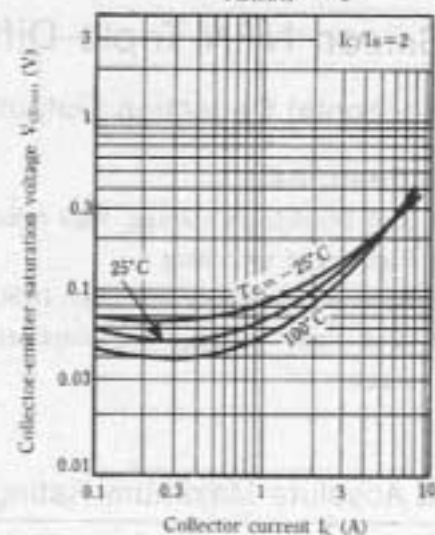
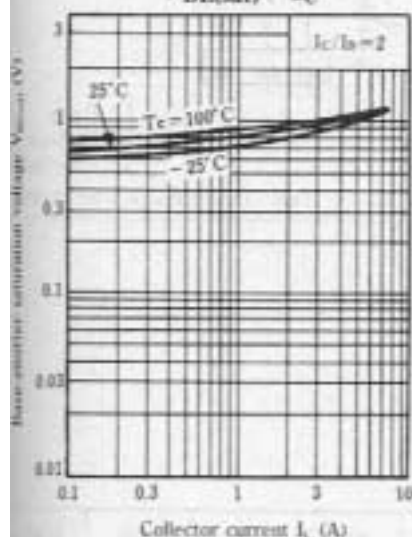
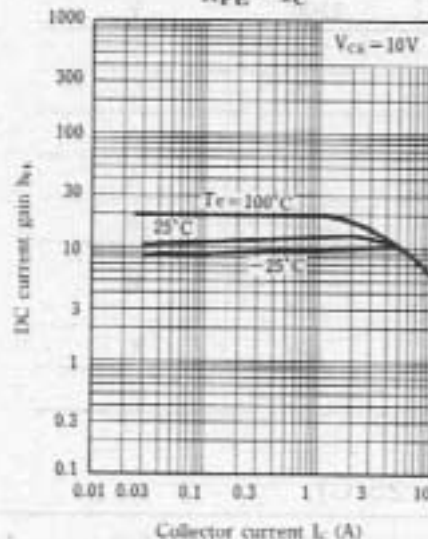
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=750\text{V}, I_E=0$			10	μA
		$V_{CB}=1500\text{V}, I_E=0$			1	mA
Emitter-base voltage	V_{EB0}	$I_E=500\text{mA}, I_C=0$		7		V
DC current gain	h_{FE}	$V_{CE}=5\text{V}, I_C=1\text{A}$	5		25	
		$V_{CE}=10\text{V}, I_C=6\text{A}$	4.5			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=6\text{A}, I_B=1.4\text{A}$			8	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=6\text{A}, I_B=1.4\text{A}$			1.5	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=1\text{A}, f=0.5\text{MHz}$		2		MHz
Storage time (L load)	t_{stg}	$I_C=6\text{A}, I_{B1}=1.4\text{A}$			11	μs
Collector current fall time (L load)	t_f	$I_{B2}=-1.4\text{A}, L_{load}=5\mu\text{H}$			0.8	μs
Storage time (R load)	t_{stg}	$I_C=6\text{A}, I_{B1}=1.4\text{A}$		1.5		μs
Collector current fall time (R load)	t_f	$I_{B2}=-2.8\text{A}, V_{CC}=200\text{V}$		0.2		μs
Diode forward voltage	V_F	$I_C=-7\text{A}, I_B=0$			2.3	V

■ Package Dimensions

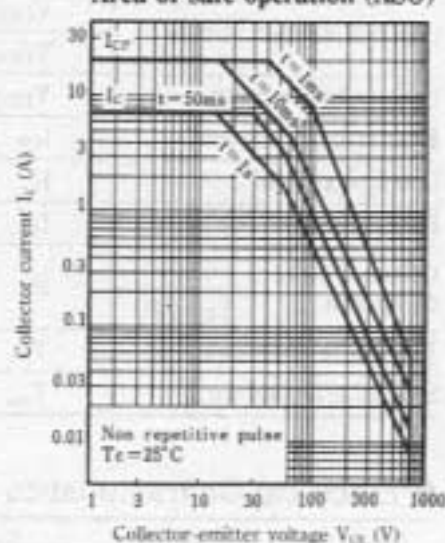


■ Inner Circuit

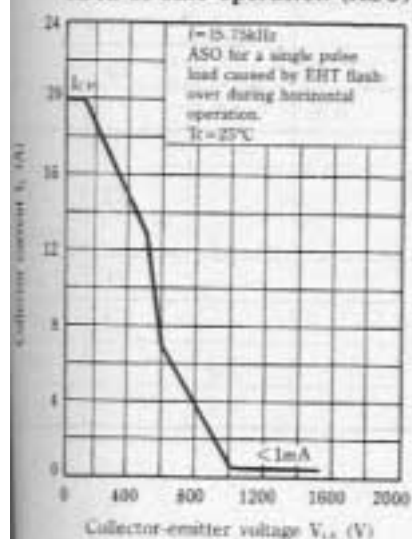


$P_C - T_a$  $I_C - V_{CE}$  $V_{CE(sat)} - I_C$  $V_{BE(sat)} - I_C$  $h_{FE} - I_C$ 

Area of safe operation (ASO)



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 $R_{th(t)} - t$ 