

2SB1193

Silicon PNP Epitaxial Planar Darlington Type

Medium Speed Switching

Complementary Pair with 2SD1773

■ Features

- High DC current gain (h_{FE})
- High speed switching
- "Full Pack" package for simplified mounting on a heat sink with one screw

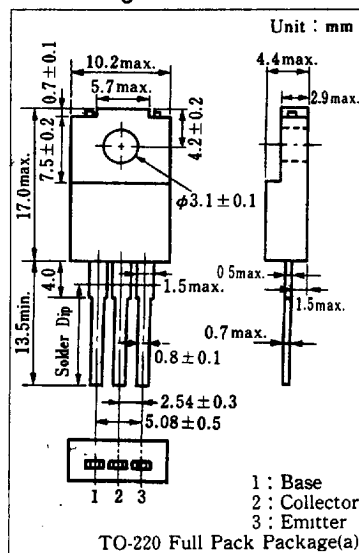
■ Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	-120	V
Collector-emitter voltage	V_{CEO}	-120	V
Emitter-base voltage	V_{EBO}	-7	V
Peak collector current	I_{CP}	-12	A
Collector current	I_C	-8	A
Collector power dissipation	P_C	$T_c=25^\circ\text{C}$	50
		$T_a=25^\circ\text{C}$	2
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

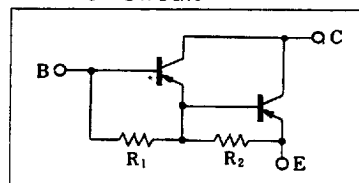
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -120\text{ V}, I_E = 0$			-100	μA
	I_{CEO}	$V_{OE} = -100\text{ V}, R_{BE} = \infty$			-10	μA
Collector-emitter voltage	$V_{CE(sat)}$	$I_C = -2\text{ A}, R_{BE} = \infty, L = 10\text{ mH}$	-120			V
Emitter-base voltage	V_{EBO}	$I_E = -50\text{ mA}, I_C = 0$	-7			V
DC current gain	h_{FE}	$V_{CE} = -3\text{ V}, I_C = -4\text{ A}$	1000		20000	
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C = -4\text{ A}, I_B = -8\text{ mA}$			-1.5	V
	$V_{CE(sat)2}$	$I_C = -8\text{ A}, I_B = -80\text{ mA}$			-3	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C = -4\text{ A}, I_B = -8\text{ mA}$			-2	V
	$V_{BE(sat)2}$	$I_C = -8\text{ A}, I_B = -80\text{ mA}$			-3.5	V
Transition frequency	f_T	$V_{CE} = -10\text{ V}, I_C = -0.5\text{ A}, f = 1\text{ MHz}$		15		MHz
Turn-on time	t_{on}	$I_C = -4\text{ A}, I_{B1} = -8\text{ mA}, I_{B2} = 8\text{ mA}$		0.7		μs
Storage time	t_{stg}			3.5		μs
Collector current fall time	t_f		$V_{CC} = -50\text{ V}$		2	

■ Package Dimensions



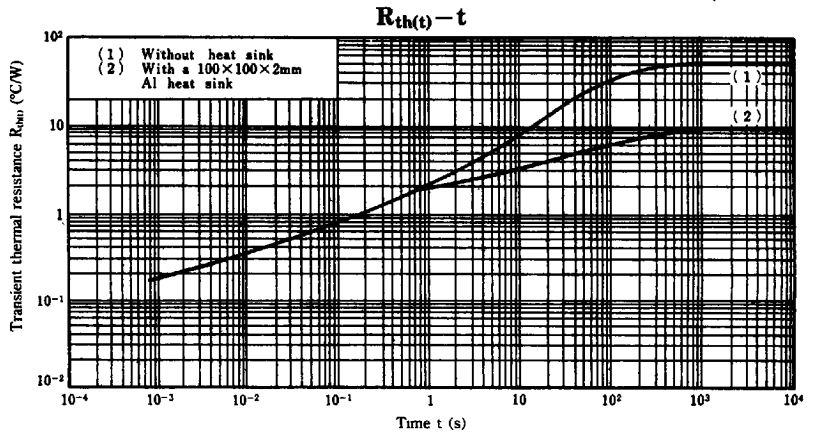
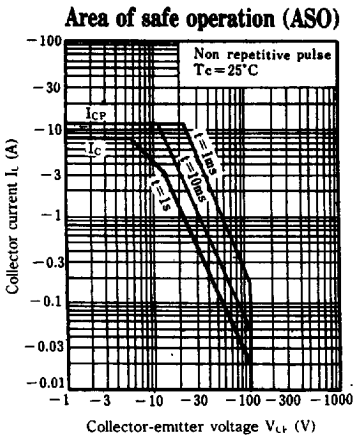
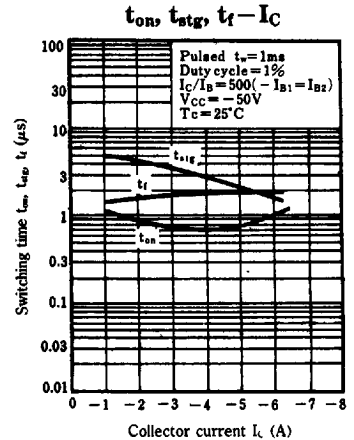
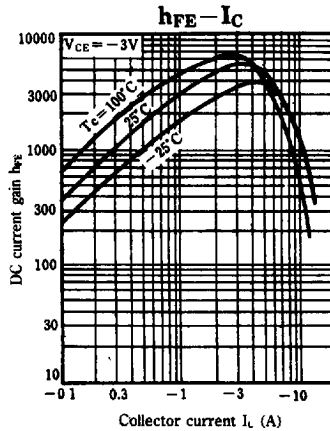
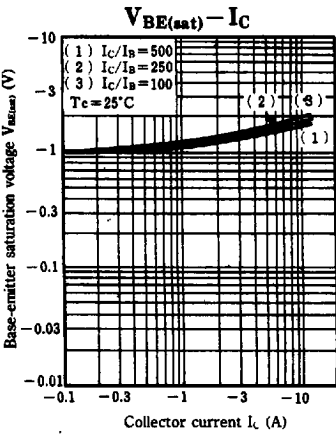
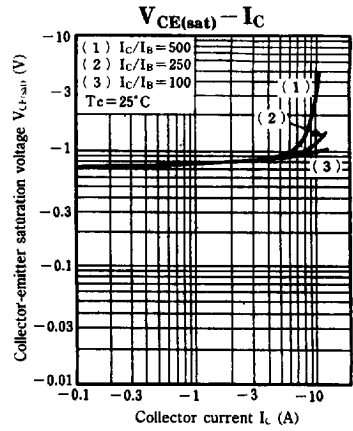
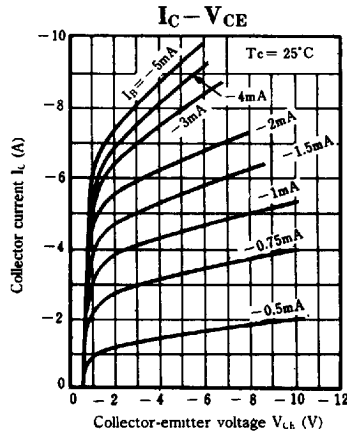
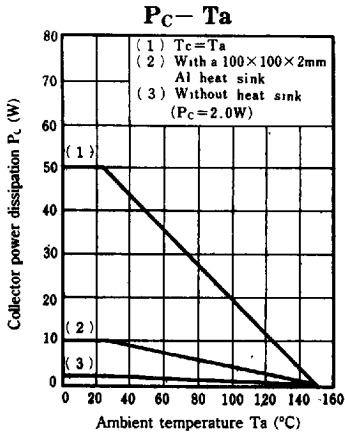
■ Inner Circuit



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