

2SB950, 2SB950A

Silicon PNP Epitaxial Planar Darlington Type

Power Amplifier, Switching

Complementary Pair with 2SD1276, 2SD1276A

■ 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	2SB950	V_{CBO}	-60	V
	2SB950A		-80	
Collector-emitter voltage	2SB950	V_{CEO}	-60	V
	2SB950A		-80	
Emitter-base voltage		V_{EBO}	-5	V
Peak collector current		I_{CP}	-8	A
Collector current		I_C	-4	A
Collector power dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_C	40	W
	$T_A = 25\text{ }^{\circ}\text{C}$		2	
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature		T_{stg}	-55 ~ +150	$^{\circ}\text{C}$

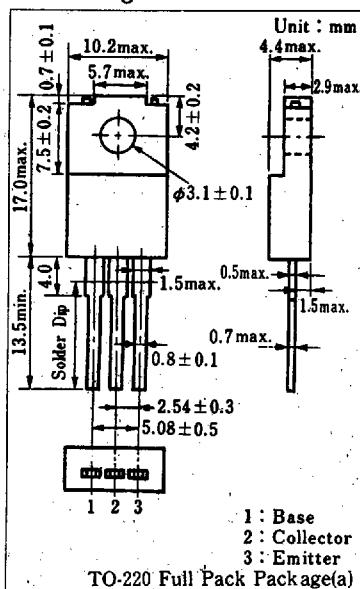
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SB950 2SB950A	$V_{CB} = -60\text{ V}, I_E = 0$ $V_{CB} = -80\text{ V}, I_E = 0$			-200	μA
					-200	
Collector cutoff current	2SB950 2SB950A	$V_{CE} = -30\text{ V}, I_B = 0$ $V_{CE} = -40\text{ V}, I_B = 0$			-500	μA
					-500	
Emitter cutoff current	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$			-2	mA
Collector-emitter voltage	2SB950 2SB950A	$I_C = -30\text{ mA}, I_B = 0$	-60 -80			V
DC current gain	h_{FE1} h_{FE2}^*	$V_{CE} = -3\text{ V}, I_C = -0.5\text{ A}$ $V_{CE} = -3\text{ V}, I_C = -3\text{ A}$	1000			
			1000		10000	
Base-emitter voltage	V_{BE}	$V_{CE} = -3\text{ V}, I_C = -3\text{ A}$			-2.5	V
Collector-emitter saturation voltage	$V_{CE(sat)1}$ $V_{CE(sat)2}$	$I_C = -3\text{ A}, I_B = -12\text{ mA}$ $I_C = -5\text{ A}, I_B = -20\text{ mA}$			-2	V
					-4	
Transition frequency	f_T	$V_{CE} = -10\text{ V}, I_C = -0.5\text{ A}, f = 1\text{ MHz}$		20		MHz
Turn-on time	t_{on}	$I_C = -3\text{ A}, I_{B1} = -12\text{ mA}, I_{B2} = 12\text{ mA}, V_{CC} = -50\text{ V}$		0.3		μs
Storage time	t_{stg}			2		μs
Collector current fall time	t_f			0.5		μs

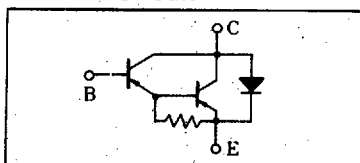
* h_{FE2} Classifications

Class	R	Q	P
h_{FE2}	1000 ~ 2500	2000 ~ 5000	4000 ~ 10000

■ Package Dimensions



■ Inner Circuit



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