

2SB950, 2SB950A

Silicon PNP epitaxial planar type Darlington

For power amplification and switching

Complementary to 2SD1276 and 2SD1276A

Features

- High forward current transfer ratio h_{FE}
- High-speed switching
- Full-pack package which can be installed to the heat sink with one screw

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

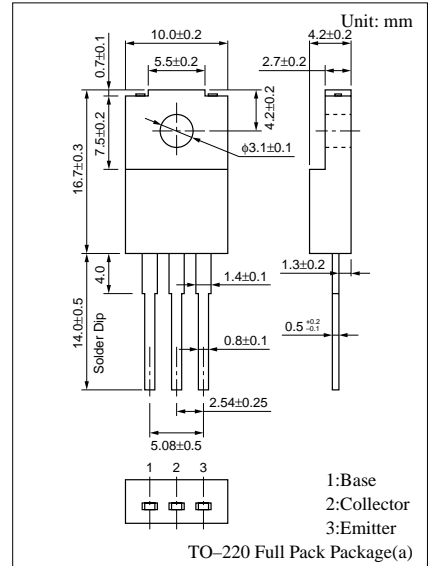
Parameter	Symbol	Ratings	Unit	
Collector to base voltage	V_{CBO}	2SB950	-60	V
2SB950A		-80		
Collector to emitter voltage	V_{CEO}	2SB950	-60	V
2SB950A		-80		
Emitter to base voltage	V_{EBO}	-5	V	
Peak collector current	I_{CP}	-8	A	
Collector current	I_C	-4	A	
Collector power dissipation	P_C	$T_C=25^\circ\text{C}$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

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

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	2SB950	$V_{CB} = -60\text{V}, I_E = 0$		-200	μA
2SB950A		$V_{CB} = -80\text{V}, I_E = 0$		-200		
Collector cutoff current	I_{CEO}	2SB950	$V_{CE} = -30\text{V}, I_B = 0$		-500	μA
2SB950A		$V_{CE} = -40\text{V}, I_B = 0$		-500		
Emitter cutoff current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$			-2	mA
Collector to emitter voltage	V_{CEO}	2SB950	$I_C = -30\text{mA}, I_B = 0$	-60		V
2SB950A			-80			
Forward current transfer ratio	h_{FE1}	$V_{CE} = -3\text{V}, I_C = -0.5\text{A}$	1000			
	h_{FE2}^*	$V_{CE} = -3\text{V}, I_C = -3\text{A}$	2000		10000	
Base to emitter voltage	V_{BE}	$V_{CE} = -3\text{V}, I_C = -3\text{A}$			-2.5	V
Collector to emitter saturation voltage	$V_{CE(sat)1}$	$I_C = -3\text{A}, I_B = -12\text{mA}$			-2	V
	$V_{CE(sat)2}$	$I_C = -5\text{A}, I_B = -20\text{mA}$			-4	V
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
Fall time	t_f			0.5		μs

* h_{FE2} Rank classification

Rank	Q	P
h_{FE2}	2000 to 5000	4000 to 10000



Internal Connection

