

2SB951, 2SB951A

Silicon PNP epitaxial planar type Darlington

For medium-speed switching

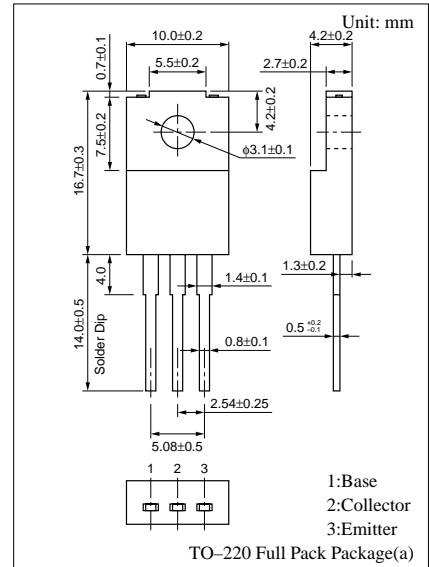
Complementary to 2SD1277 and 2SD1277A

Features

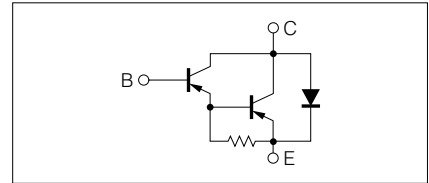
- High forward current transfer ratio h_{FE}
- High-speed switching
- Full-pack package which can be installed to the heat sink with one screw

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

Parameter	Symbol	Rated	Unit
Collector to base voltage	V_{CBO}	-60	V
2SB951A		-80	
Collector to emitter voltage	V_{CEO}	-60	V
2SB951A		-80	
Emitter to base voltage	V_{EBO}	-7	V
Peak collector current	I_{CP}	-12	A
Collector current	I_C	-8	A
Collector power dissipation	P_C	45	W
$T_C=25^\circ\text{C}$ $T_a=25^\circ\text{C}$		2	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



Internal Connection



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

Parameter	Symbol	Conditions	min	typ	max	Unit	
Collector cutoff current	I_{CBO}	$V_{CB} = -60\text{V}, I_E = 0$			-100	μA	
2SB951A		$V_{CB} = -80\text{V}, I_E = 0$			-100		
Emitter cutoff current	I_{EBO}	$V_{EB} = -7\text{V}, I_C = 0$			-2	mA	
Collector to emitter voltage	V_{CEO}	$I_C = -30\text{mA}, I_B = 0$	-60			V	
2SB951A			-80				
Forward current transfer ratio	h_{FE1}^*	$V_{CE} = -3\text{V}, I_C = -4\text{A}$	2000		10000		
		$V_{CE} = -3\text{V}, I_C = -8\text{A}$	500				
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -4\text{A}, I_B = -8\text{mA}$			-1.5	V	
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = -4\text{A}, I_B = -8\text{mA}$			-2	V	
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_C = -1\text{A}, f = 1\text{MHz}$		20		MHz	
Turn-on time	t_{on}	$I_C = -4\text{A}, I_{B1} = -8\text{mA}, I_{B2} = 8\text{mA}, V_{CC} = -50\text{V}$		0.5		μs	
Storage time	t_{stg}				2		μs
Fall time	t_f				1		μs

* h_{FE1} Rank classification

Rank	Q	P
h_{FE1}	2000 to 5000	4000 to 10000

