

2SB0951, 2SB0951A (2SB951, 2SB951A)

Silicon PNP epitaxial planar type Darlington

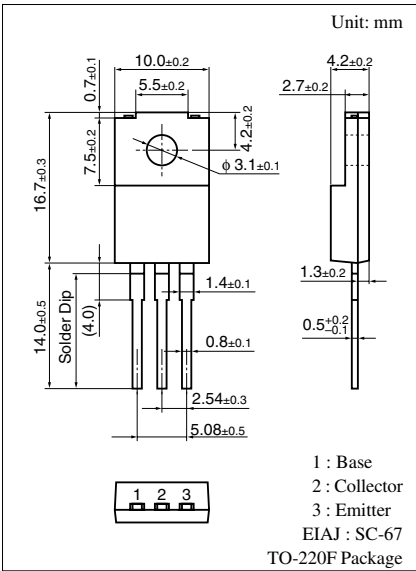
For midium-speed switching
Complementary to 2SD1277 and 2SD1277A

■ Features

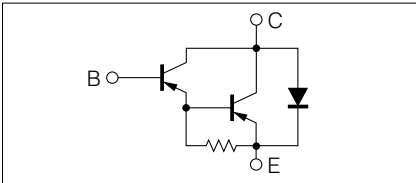
- High forward current transfer ratio h_{FE}
- High-speed switching
- Full-pack package which can be installed to the heat sink with one screw

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

Parameter		Symbol	Rating	Unit
Collector to base voltage	2SB0951	V_{CBO}	−60	V
	2SB0951A		−80	
Collector to emitter voltage	2SB0951	V_{CEO}	−60	V
	2SB0951A		−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	$T_C = 25^{\circ}\text{C}$	P_C	45	W
	$T_a = 25^{\circ}\text{C}$		2	
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature		T_{stg}	−55 to +150	$^{\circ}\text{C}$



Internal Connection



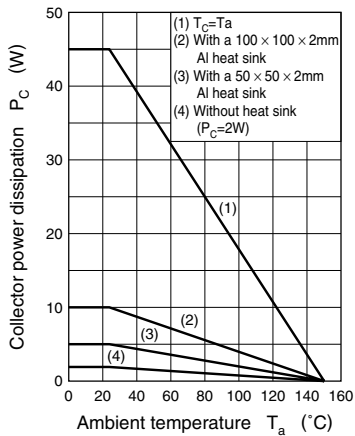
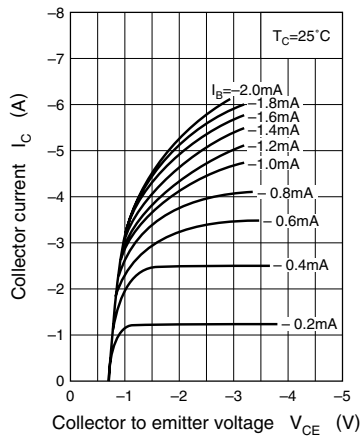
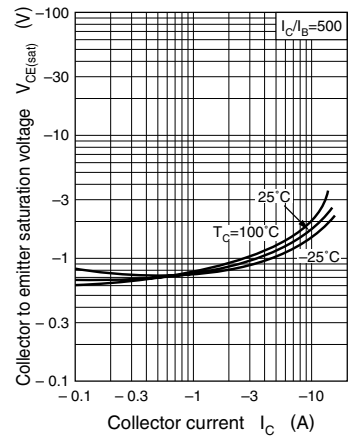
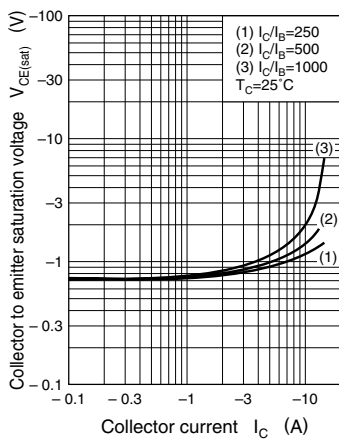
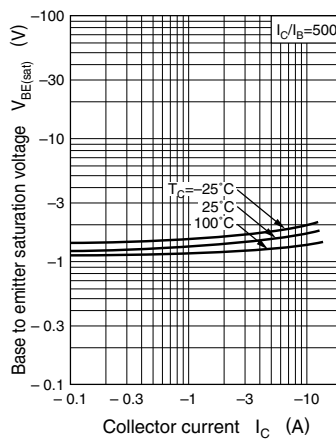
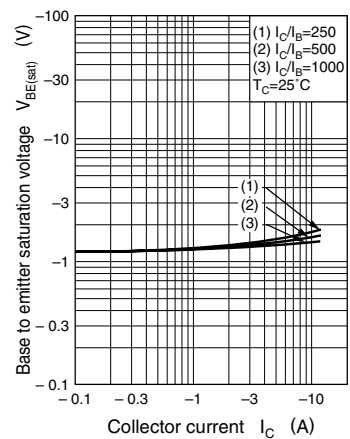
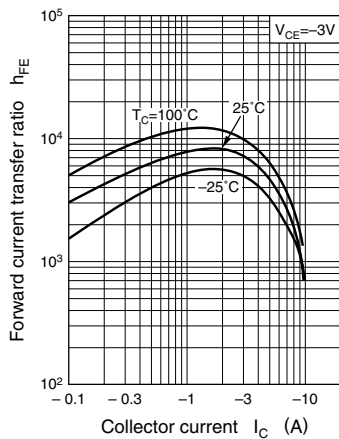
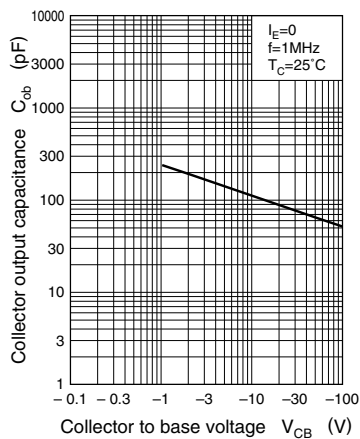
■ Electrical Characteristics $T_C = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -60\text{ V}, I_E = 0$			-100	μA
		$V_{CB} = -80\text{ V}, I_E = 0$			-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
			-80			
Forward current transfer ratio	h_{FE1}^*	$V_{CE} = -3\text{ V}, I_C = -4\text{ A}$	2 000		10 000	
	h_{FE2}	$V_{CE} = -3\text{ V}, I_C = -8\text{ A}$	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

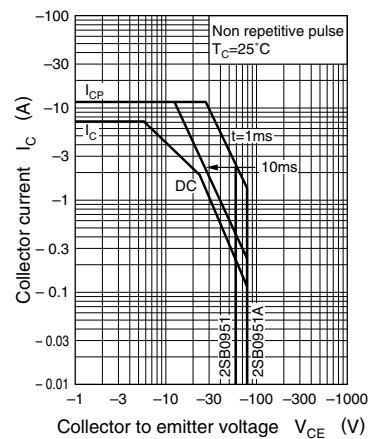
Note) *: Rank classification

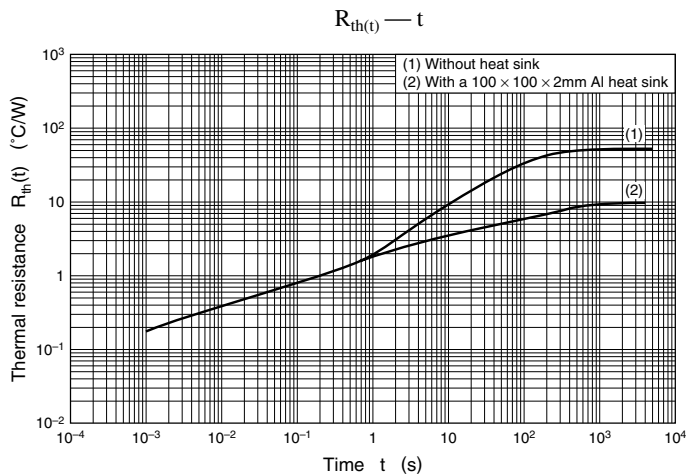
Rank	Q	P
h_{FE1}	2 000 to 5 000	4 000 to 10 000

Note.) The Part numbers in the Parenthesis show conventional part number.

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

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