

# 2SB0949 (2SB949), 2SB0949A (2SB949A)

## Silicon PNP epitaxial planar type darlington

For power amplification and switching

Complementary to 2SD1275 and 2SD1275A

### ■ 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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit	
Collector-base voltage (Emitter open)	2SB0949	$V_{CBO}$	-60	V
	2SB0949A		-80	
Collector-emitter voltage (Base open)	2SB0949	$V_{CEO}$	-60	V
	2SB0949A		-80	
Emitter-base voltage (Collector open)	$V_{EBO}$	-5	V	
Collector current	$I_C$	-2	A	
Peak collector current	$I_{CP}$	-4	A	
Collector power dissipation	$T_C = 25^\circ\text{C}$	$P_C$	35	W
			2	
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$	

### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

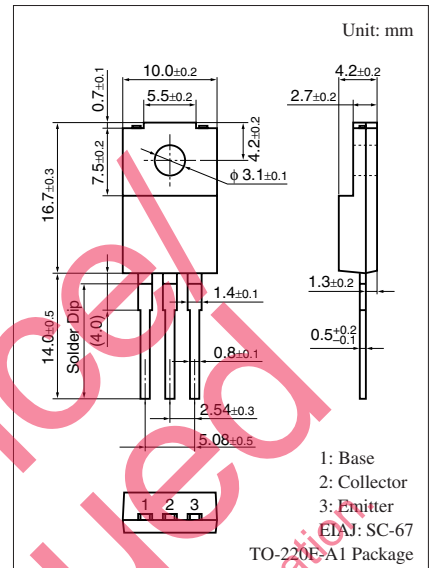
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	2SB0949	$I_C = -30\text{ mA}, I_B = 0$	-60			V
	2SB0949A		-80			
Base-emitter voltage	$V_{BE}$	$V_{CE} = -4\text{ V}, I_C = -2\text{ A}$			-2.8	V
Collector-base cutoff current (Emitter open)	2SB0949	$V_{CB} = -60\text{ V}, I_E = 0$			-1	mA
	2SB0949A	$V_{CB} = -80\text{ V}, I_E = 0$			-1	
Collector-emitter cutoff current (Base open)	2SB0949	$V_{CE} = -30\text{ V}, I_B = 0$			-2	mA
	2SB0949A	$V_{CE} = -40\text{ V}, I_B = 0$			-2	
Emitter-base cutoff current (Collector open)	$I_{EBO}$	$V_{EB} = -5\text{ V}, I_C = 0$			-2	mA
Forward current transfer ratio	$h_{FE1}$	$V_{CE} = -4\text{ V}, I_C = -1\text{ A}$	1000			—
	$h_{FE2}^*$	$V_{CE} = -4\text{ V}, I_C = -2\text{ A}$	1000		10000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -2\text{ A}, I_B = -8\text{ mA}$			-2.5	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	$t_{on}$	$I_C = -2\text{ A}, I_{B1} = -8\text{ mA}, I_{B2} = 8\text{ mA}$		0.4		$\mu\text{s}$
Storage time	$t_{stg}$	$V_{CC} = -50\text{ V}$		1.5		$\mu\text{s}$
Fall time	$t_f$			0.5		$\mu\text{s}$

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

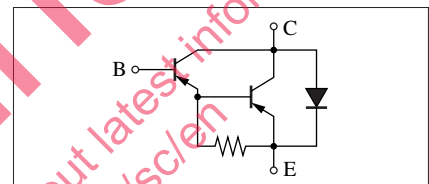
2. \*: Rank classification

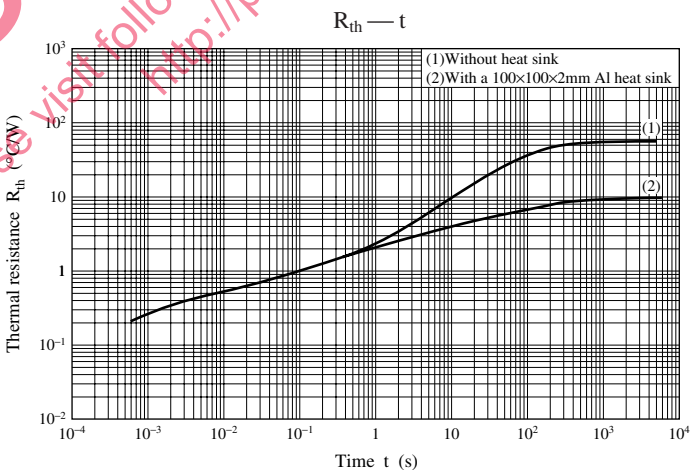
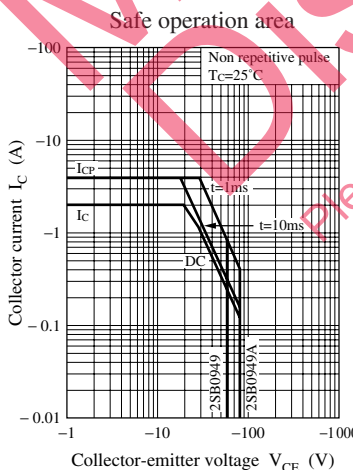
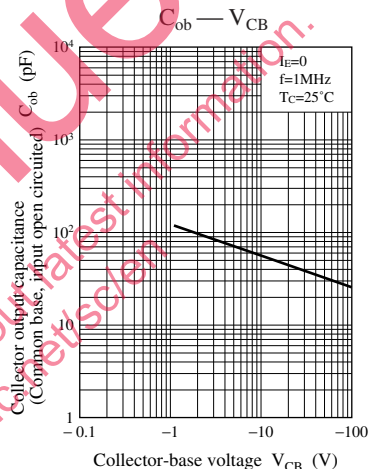
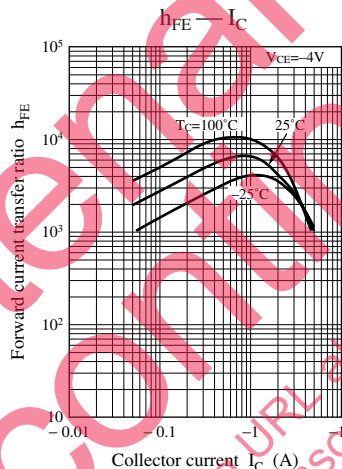
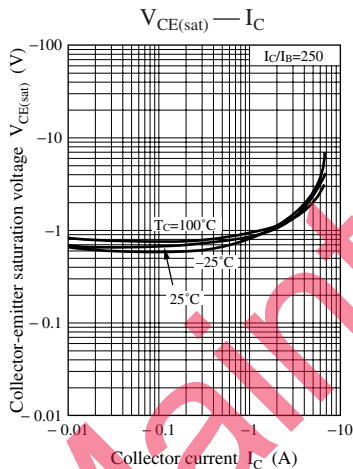
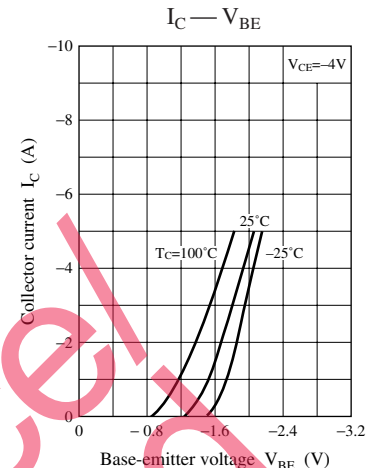
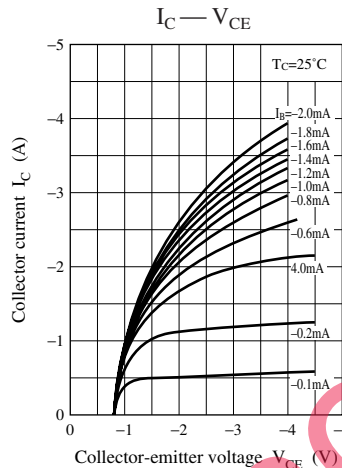
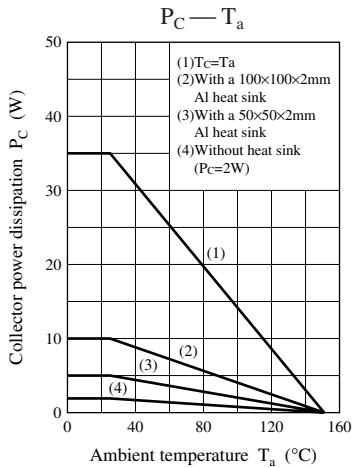
Rank	R	Q	P
$h_{FE2}$	1 000 to 2 500	2 000 to 5 000	4 000 to 10 000

Note) The part numbers in the parenthesis show conventional part number.



### Internal Connection





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