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

## Silicon PNP epitaxial planar type darlington

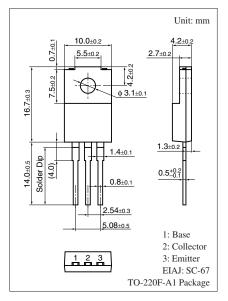
For power amplification and switching Complementary to 2SD1275 and 2SD1275A

#### Features

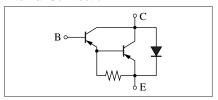
- High forward current transfer ratio h<sub>FE</sub>
- High-speed switching
- Full-pack package which can be installed to the heat sink with one screw

### ■ Absolute Maximum Ratings $T_a = 25$ °C

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



#### Internal Connection



### ■ Electrical Characteristics $T_a = 25$ °C $\pm 3$ °C

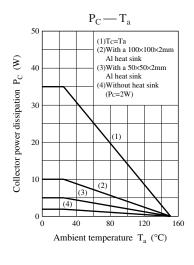
Parameter		Symbol	Conditions	Min	Тур	Max	Unit
Collector-emitter voltage	2SB0949	V <sub>CEO</sub>	$I_C = -30 \text{ mA}, I_B = 0$	-60			V
(Base open)	2SB0949A			-80			
Base-emitter voltage		$V_{BE}$	$V_{CE} = -4 \text{ V}, I_{C} = -2 \text{ A}$			-2.8	V
Collector-base cutoff	2SB0949	$I_{CBO}$	$V_{CB} = -60 \text{ V}, I_{E} = 0$			-1	mA
current (Emitter open)	2SB0949A		$V_{CB} = -80 \text{ V}, I_E = 0$			-1	
Collector-emitter cutoff	2SB0949	$I_{CEO}$	$V_{CE} = -30 \text{ V}, I_B = 0$			-2	mA
current (Base open)	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 <sub>FE1</sub>	$V_{CE} = -4 \text{ V}, I_{C} = -1 \text{ A}$	1000			_
		h <sub>FE2</sub> *	$V_{CE} = -4 \text{ V}, I_{C} = -2 \text{ A}$	1 000		10 000	
Collector-emitter saturation	voltage	V <sub>CE(sat)</sub>	$I_C = -2 \text{ A}, I_B = -8 \text{ mA}$			-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 <sub>on</sub>	$I_C = -2 \text{ A}, I_{B1} = -8 \text{ mA}, I_{B2} = 8 \text{ mA}$		0.4		μs
Storage time		t <sub>stg</sub>	$V_{CC} = -50 \text{ V}$		1.5		μs
Fall time		$t_{\rm f}$			0.5		μs

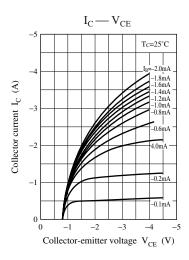
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

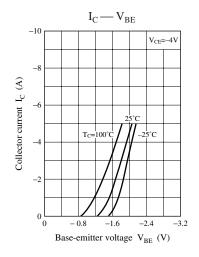
#### 2. \*: Rank classification

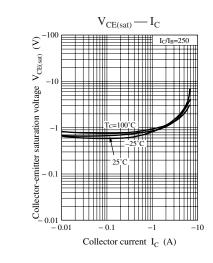
Rank	R	Q	Р	
h <sub>FE2</sub>	1000 to 2500	2000 to 5000	4000 to 10000	

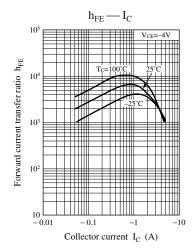
Note) The part numbers in the parenthesis show conventional part number.

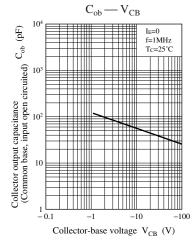


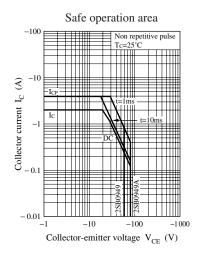


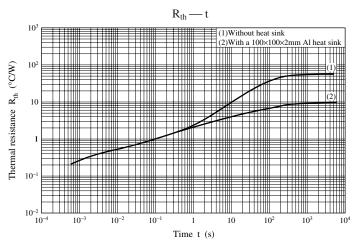












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