

# 2SB949, 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 ( $T_C=25^\circ\text{C}$ )

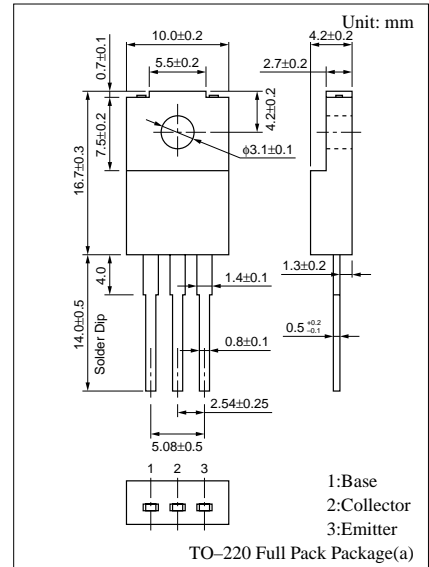
Parameter	Symbol	Rated	Unit
Collector to base voltage	$V_{CBO}$	-60	V
2SB949A		-80	
Collector to emitter voltage	$V_{CEO}$	-60	V
2SB949A		-80	
Emitter to base voltage	$V_{EBO}$	-5	V
Peak collector current	$I_{CP}$	-4	A
Collector current	$I_C$	-2	A
Collector power dissipation	$P_C$	35	W
$T_C=25^\circ\text{C}$ $T_a=25^\circ\text{C}$		2	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = -60\text{V}, I_E = 0$			-1	mA
2SB949A		$V_{CB} = -80\text{V}, I_E = 0$			-1	
Collector cutoff current	$I_{CEO}$	$V_{CB} = -30\text{V}, I_B = 0$			-2	mA
2SB949A		$V_{CB} = -40\text{V}, I_B = 0$			-2	
Emitter cutoff current	$I_{EBO}$	$V_{EB} = -5\text{V}, I_C = 0$			-2	mA
Collector to emitter voltage	$V_{CEO}$	$I_C = -30\text{mA}, I_B = 0$	-60			V
2SB949A			-80			
Forward current transfer ratio	$h_{FE1}$	$V_{CE} = -4\text{V}, I_C = -1\text{A}$	1000			
	$h_{FE2}^*$	$V_{CE} = -4\text{V}, I_C = -2\text{A}$	2000		10000	
Base to emitter voltage	$V_{BE}$	$V_{CE} = -4\text{V}, I_C = -2\text{A}$			-2.8	V
Collector to 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	$t_{on}$	$I_C = -2\text{A}, I_{B1} = -8\text{mA}, I_{B2} = 8\text{mA}, V_{CC} = -50\text{V}$		0.4		$\mu\text{s}$
Storage time	$t_{stg}$				1.5	$\mu\text{s}$
Fall time	$t_f$				0.5	$\mu\text{s}$

\* $h_{FE2}$  Rank classification

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



## Internal Connection

