

# 2SB1173, 2SB1173A

## Silicon PNP Epitaxial Planar Type

AF Power Amplifier

Complementary Pair with 2SD1743, 2SD1743A

### Features

- High DC current gain ( $h_{FE}$ ) and good linearity
- Low collector-emitter saturation voltage ( $V_{CE(sat)}$ )
- "I Type" package configuration with a cooling fin for direct soldering on PC board of a small-size electronic equipment

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

Item	Symbol	Value	Unit
Collector-base voltage	2SB1173	-60	V
	2SB1173A	-80	
Collector-emitter voltage	2SB1173	-60	V
	2SB1173A	-80	
Emitter-base voltage	$V_{EBO}$	-5	V
Peak collector current	$I_{CP}$	-8	A
Collector current	$I_C$	-4	A
Collector power dissipation	$T_c=25^\circ\text{C}$	15	W
	$T_a=25^\circ\text{C}$	1.3	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ~ +150	$^\circ\text{C}$

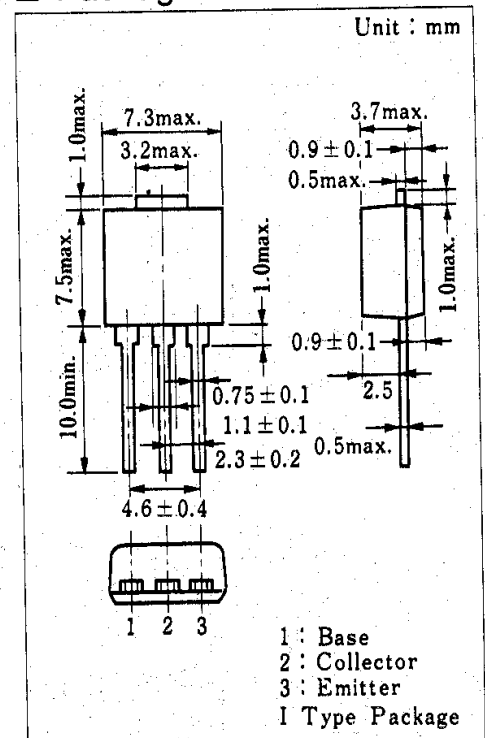
### Electrical Characteristics ( $T_c=25^\circ\text{C}$ )

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SB1173	$V_{CE} = -60\text{V}, V_{BE} = 0$			-400	$\mu\text{A}$
	2SB1173A	$V_{CE} = -80\text{V}, V_{BE} = 0$			-400	
Collector cutoff current	2SB1173	$V_{CE} = -30\text{V}, I_B = 0$			-700	$\mu\text{A}$
	2SB1173A	$V_{CE} = -60\text{V}, I_B = 0$			-700	
Emitter cutoff current	$I_{EBO}$	$V_{EB} = -5\text{V}, I_C = 0$			-1	mA
Collector-emitter voltage	2SB1173	$I_C = -30\text{mA}, I_B = 0$	-60			V
	2SB1173A		-80			
DC current gain	$h_{FE1}$	$V_{CE} = -4\text{V}, I_C = -1\text{A}$	40		250	
	$h_{FE2}$	$V_{CE} = -4\text{V}, I_C = -3\text{A}$	15			
Base-emitter voltage	$V_{BE}$	$V_{CE} = -4\text{V}, I_C = -3\text{A}$			-2	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -4\text{A}, I_B = -0.4\text{A}$			-1.5	V
Transition frequency	$f_T$	$V_{CE} = -10\text{V}, I_C = -0.1\text{A}, f = 10\text{MHz}$		30		MHz
Turn-on time	$t_{on}$	$I_C = -4\text{A}, I_{B1} = -0.4\text{A}, I_{B2} = 0.4\text{A}$		0.2		$\mu\text{s}$
Storage time	$t_{stg}$			0.5		$\mu\text{s}$
Collector current fall time	$t_f$			0.2		$\mu\text{s}$

### $h_{FE1}$ Classifications

Class	R	Q	P
$h_{FE1}$	40 ~ 90	70 ~ 150	120 ~ 250

### Package Dimensions



\*Surface-mount type is also available.  
(Refer to p.81.)