

2SB1173, 2SB1173A

Silicon PNP Epitaxial Planar Type

AF Power Amplifier

Complementary Pair with 2SD1743, 2SD1743A

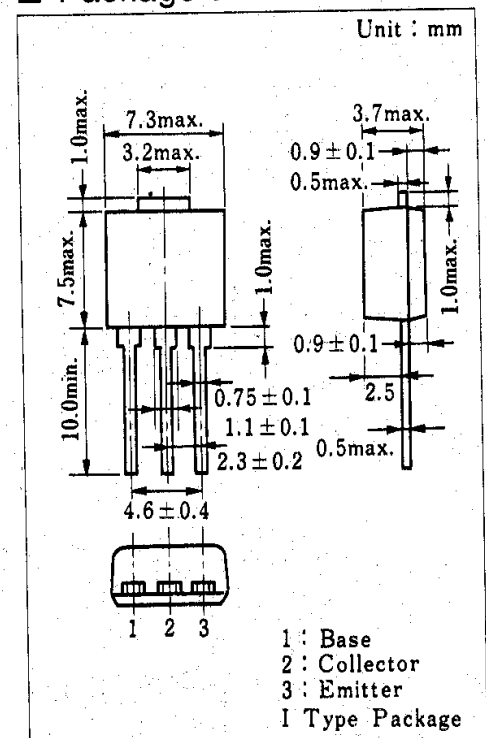
■ Features

- 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	V_{CBO}	-60	V
	2SB1173A		-80	
Collector-emitter voltage	2SB1173	V_{CEO}	-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	$T_c = 25\text{ }^{\circ}\text{C}$	P_C	15	W
	$T_a = 25\text{ }^{\circ}\text{C}$		1.3	
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature		T_{stg}	-55 ~ +150	$^{\circ}\text{C}$

■ Package Dimensions



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

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

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SB1173 2SB1173A	I_{CES} $V_{CE} = -60\text{ V}, V_{BE} = 0$ $V_{CE} = -80\text{ V}, V_{BE} = 0$			-400 -400	μA
Collector cutoff current	2SB1173 2SB1173A	I_{CEO} $V_{CE} = -30\text{ V}, I_B = 0$ $V_{CE} = -60\text{ V}, I_B = 0$			-700 -700	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$			-1	mA
Collector-emitter voltage	2SB1173 2SB1173A	V_{CEO} $I_C = -30\text{ mA}, I_B = 0$	-60 -80			V
DC current gain	h_{FE1}^*	$V_{CE} = -4\text{ V}, I_C = -1\text{ A}$ $V_{CE} = -4\text{ V}, I_C = -3\text{ A}$	40 15		250	
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		μs
Storage time	t_{stg}			0.5		μs
Collector current fall time	t_f			0.2		μs

* h_{FE1} Classifications

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