2SB1179, 2SB1179A

Silicon PNP Epitaxial Planar Darlington Type

Power Amplifier, Switching
Complementary Pair with 2SD1749, 2SD1749A

■ Features

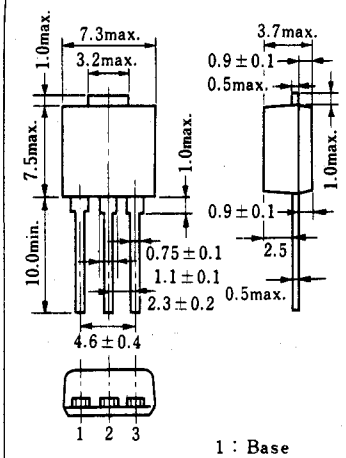
- High DC current gain (h_{FE})
- High speed switching
- "I Type" package configuration with a cooling fin for direct soldering on PC board of a small-size electronic equipment

■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Collector-base voltage	2SB1179	V_{CBO}	−60	V
	2SB1179A		−80	
Collector-emitter voltage	2SB1179	V_{CEO}	−60	V
	2SB1179A		−80	
Emitter-base voltage		V_{EBO}	−5	V
Peak collector current		I_{CP}	−8	A
Collector current		I_C	−4	A
Collector power dissipation	Tc=25°C	P_C	15	W
	Ta=25°C		1.3	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55~+150	°C

■ Package Dimensions

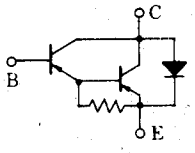
Unit : m



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

1 : Base
2 : Collector
3 : Emitter
I Type Package

■ Inner Circuit



■ Electrical Characteristics (Tc=25°C)

Item		Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SB1179	I_{CBO}	V_{CB}=−60 V, I_E=0			−200	μA
	2SB1179A		V_{CB}=−80 V, I_E=0			−200	
Collector cutoff current	2SB1179	I_{CEO}	V_{CE}=−40 V, I_B=0			−500	μA
	2SB1179A		V_{CE}=−40 V, I_B=0			−500	
Emitter cutoff current		I_{EBO}	V_{EB}=−5 V, I_C=0			−2	mA
Collector-emitter voltage	2SB1179	V_{CEO}	I_C=−30 mA, I_B=0	−60			V
	2SB1179A			−80			
DC current gain		h_{FE1}	V_{CE}=−3 V, I_C=−0.5A	1000			
		h_{FE2}*	V_{CE}=−3 V, I_C=−3A	1000		10000	
Base-emitter voltage		V_{BE}	V_{CE}=−3 V, I_C=−3A			−2.5	V
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=−3 A, I_B=−12mA			−2	V
			I_C=−5 A, I_B=−20mA			−4	
Transition frequency		f_T	V_{CE}=−10V, I_C=−0.5A, f=1MHz		20		MHz
Turn-on time		t_{on}	I_C=−3A, I_{B1}=−12mA, I_{B2}=12mA, V_{CC}=−50V		0.3		μs
Storage time		t_{stg}			2		μs
Collector current fall time		t_f			0.5		μs