

2SB942, 2SB942A

Silicon PNP Epitaxial Planar Type

AF Power Amplifier

Complementary Pair with 2SD1267, 2SD1267A

■ Features

- High DC current gain (h_{FE}) and good linearity
- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- “Full Pack” package for simplified mounting on a heat sink with one screw

■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Collector-base voltage	2SB942	V_{CBO}	-60	V
	2SB942A		-80	
Collector-emitter voltage	2SB942	V_{CEO}	-60	V
	2SB942A		-80	
Emitter-base voltage		V_{EBO}	-5	V
Peak collector current		I_{CP}	-8	A
Collector current		I_C	-4	A
Collector power dissipation	$T_c = 25^\circ C$	P_c	40	W
	$T_a = 25^\circ C$		2	
Junction temperature		T_j	150	$^\circ C$
Storage temperature		T_{stg}	-55 ~ +150	$^\circ C$

■ Electrical Characteristics (Tc=25°C)

Item		Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SB942	I_{CES}	$V_{CE} = -60\text{ V}, V_{BE} = 0$			-400	μA
	2SB942A		$V_{CE} = -80\text{ V}, V_{BE} = 0$			-400	
Collector cutoff current	2SB942	I_{CEO}	$V_{CE} = -30\text{ V}, I_B = 0$			-700	μA
	2SB942A		$V_{CE} = -60\text{ V}, I_B = 0$			-700	
Emitter cutoff current		I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$			-1	mA
Collector-emitter voltage	2SB942	V_{CEO}	$I_C = -30\text{ mA}, I_B = 0$	-60			V
	2SB942A			-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		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

■ Package Dimensions



