

2SB1417, 2SB1417A

Silicon PNP Epitaxial Planar Type

Power Amplifier
Complementary Pair with 2SD2137

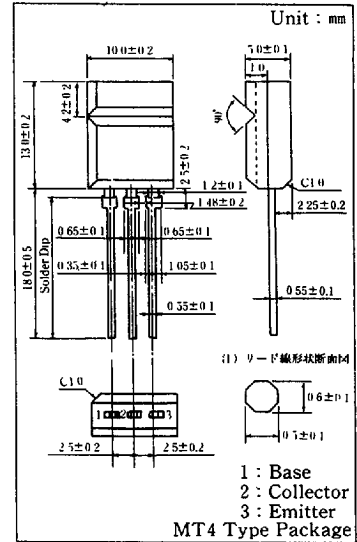
■ Features

- High DC current gain (h_{FE}) and good linearity
- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- Automatic mounting by radial taping is possible.

■ Absolute Maximum Ratings ($T_c=25^\circ C$)

Item	Symbol	Value	Unit
Collector-base voltage	2SB1417	-60	V
	2SB1417A	-80	
Collector-emitter voltage	2SB1417	-60	V
	2SB1417A	-80	
Emitter-base voltage	V_{EBO}	-6	V
Peak collector current	I_{CP}	-5	A
Collector current	I_C	-3	A
Collector power dissipation	$T_c=25^\circ C$	15	W
	$T_a=25^\circ C$	2.0	
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{str}	-55 ~ +150	$^\circ C$

■ Package Dimensions



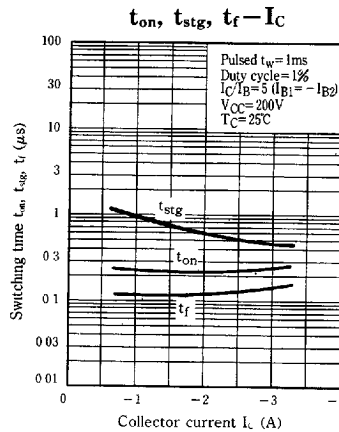
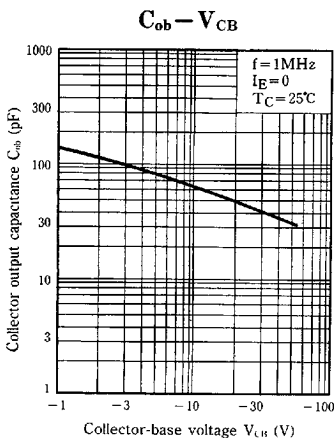
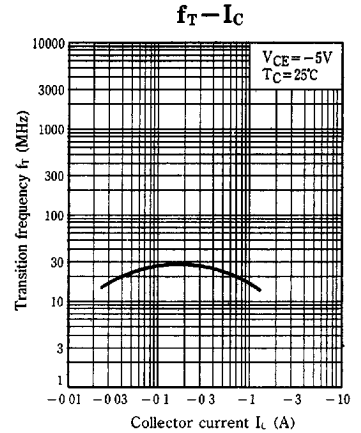
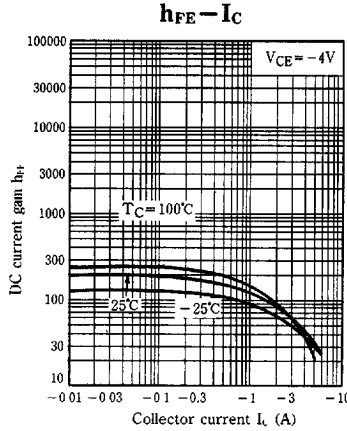
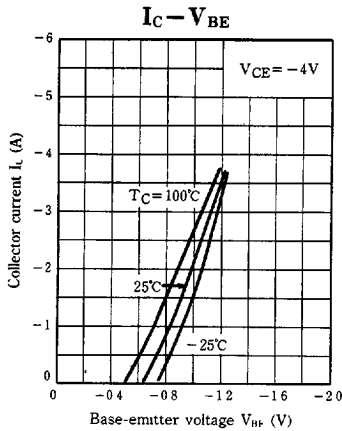
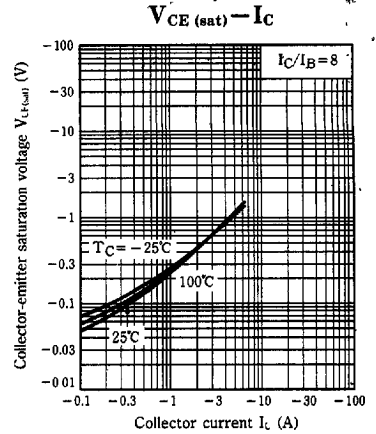
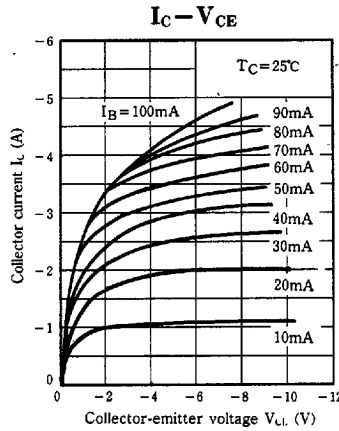
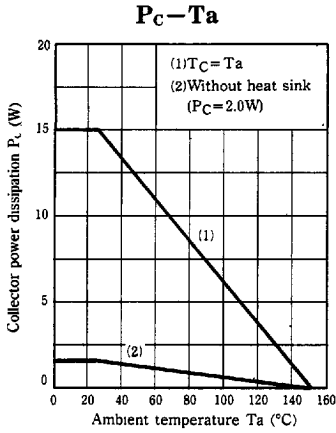
■ Electrical Characteristics ($T_c=25^\circ C$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SB1417	$V_{CE} = -60V, I_E = 0$			-100	μA
	2SB1417A	$V_{CE} = -80V, I_B = 0$			-100	
Collector cutoff current	2SB1417	$V_{CE} = -30V, V_{BE} = 0$			-100	μA
	2SB1417A	$V_{CE} = -60V, V_{BE} = 0$			-100	
Emitter cutoff current	I_{EBO}	$V_{EB} = -6V, I_C = 0$			-100	μA
Collector-emitter voltage	2SB1417	$I_C = -30mA, I_B = 0$	-60			V
	2SB1417A		-80			
DC current gain	h_{FE1}^*	$V_{CE} = -4V, I_C = -1A$	70		250	
	h_{FE2}	$V_{CE} = -4V, I_C = -3A$	10			
Base-emitter voltage	V_{BE}	$V_{CE} = -4V, I_C = -3A$			-1.8	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -3A, I_B = -0.375A$			-1.2	V
Transition frequency	f_T	$V_{CE} = -5V, I_C = -0.2A, f = 10MHz$		30		MHz
Turn-on time	t_{on}	$I_C = 1A$		0.3		μs
Storage time	t_{str}	$I_{B1} = -0.1A, I_{B2} = 0.1A$		1.0		μs
Collector current fall time	t_f	$V_{CC} = -50V$		0.2		μs

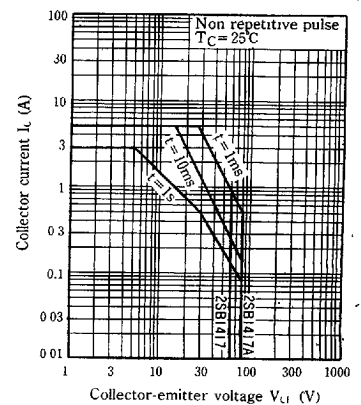
* h_{FE1} Classifications

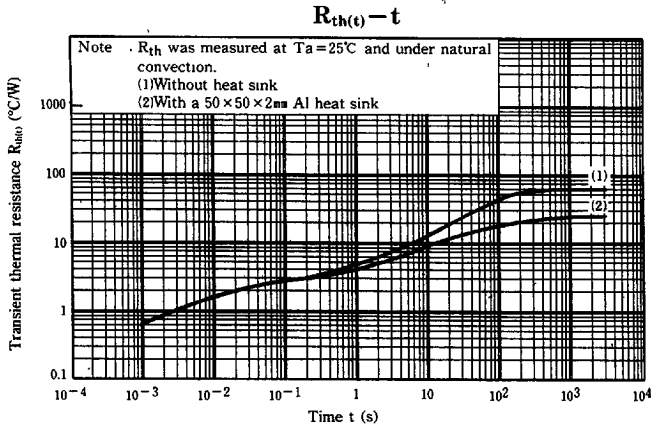
Class	Q	P
h_{FE1}	70 ~ 150	120 ~ 250

6932852 0016323 518



Safety operation area-forward bias (ASO)





6932852 0016325 390