

2SB1233, 2SB1233A

Silicon PNP Epitaxial Planar Type

Power Amplifier

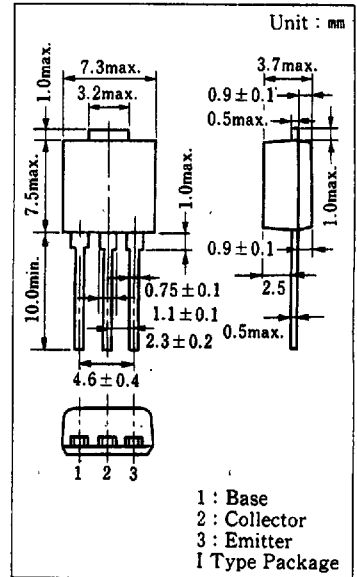
■ Features

- High collector-emitter voltage (V_{CE0})
- Wide area of safety operation (ASO)
- "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	2SB1233	-200	V	
	2SB1233A	-200		
Collector-emitter voltage	2SB1233	-150	V	
	2SB1233A	-180		
Emitter-base voltage	V_{EBO}	-6	V	
Peak collector current	I_{CP}	-2	A	
Collector current	I_C	-1	A	
Collector power dissipation	P_C	$T_c=25^\circ\text{C}$	15	W
		$T_a=25^\circ\text{C}$	1.3	
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$	

■ Package Dimensions



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

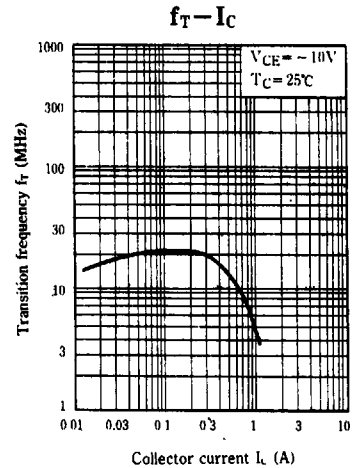
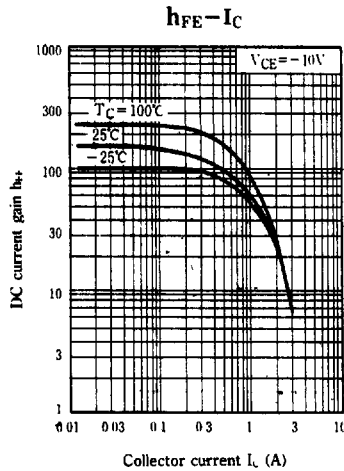
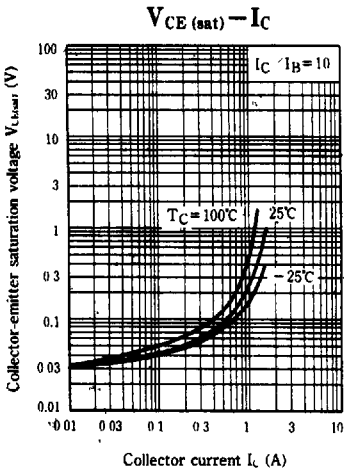
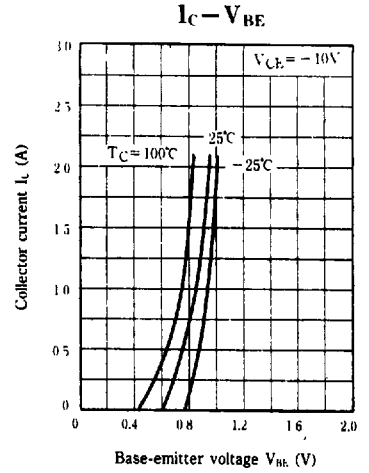
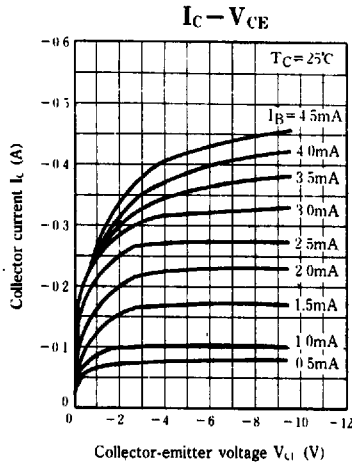
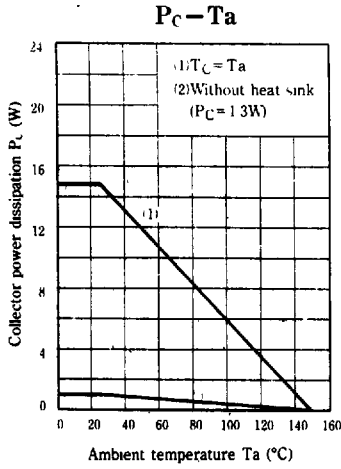
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -200\text{V}, I_E = 0$			-50	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$			-50	μA
Collector-emitter voltage	V_{CEO}	$I_C = -5\text{mA}, I_B = 0$	-150			V
			-180			
Emitter-base voltage	V_{EBO}	$I_E = -0.5\text{mA}, I_C = 0$	-6			V
DC current gain	h_{FE1}^*	$V_{CE} = -10\text{V}, I_C = -100\text{mA}$	60		240	
	h_{FE2}	$V_{CE} = -10\text{V}, I_C = -300\text{mA}$	50			
Base-emitter voltage	V_{BE}	$V_{CE} = -10\text{V}, I_C = -300\text{mA}$			-1	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$			-1	V
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_C = -100\text{mA}, f = 1\text{MHz}$		20		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		35		pF

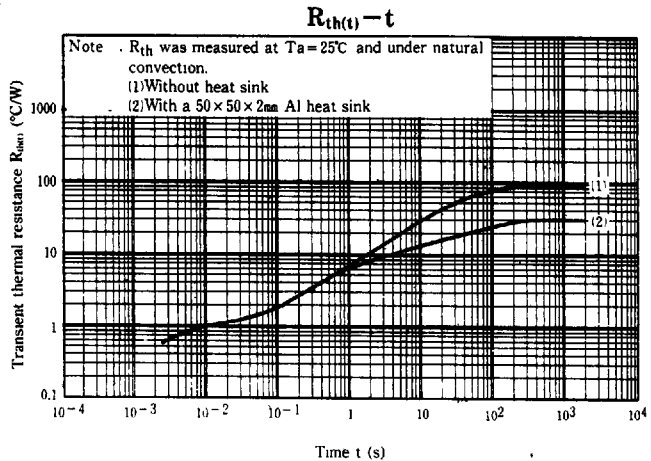
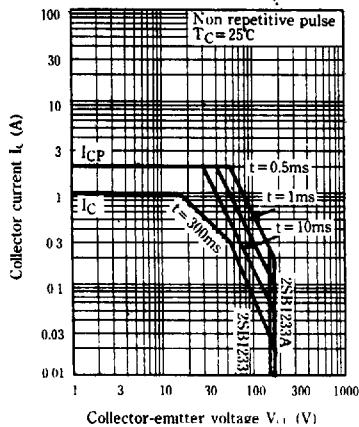
* h_{FE1} Classifications

Class	Q	P
h_{FE1}	60 ~ 140	100 ~ 240

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Safety operation area-forward bias (ASO)



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