

2SB0942 (2SB942), 2SB0942A (2SB942A)

Silicon PNP epitaxial planar type

For low-frequency power amplification

Complementary to 2SD1267, 2SD1267A

■ Features

- High forward current transfer ratio h_{FE} which has satisfactory linearity
- Large collector-emitter saturation voltage $V_{CE(sat)}$
- Full-pack package which can be installed to the heat sink with one screw

■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SB0942	-60	V
	2SB0942A	-80	
Collector-emitter voltage (Base open)	2SB0942	-60	V
	2SB0942A	-80	
Emitter-base voltage (Collector open)	V_{EBO}	-5	V
Collector current	I_C	-4	A
Peak collector current	I_{CP}	-8	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	P_C	40
			2
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

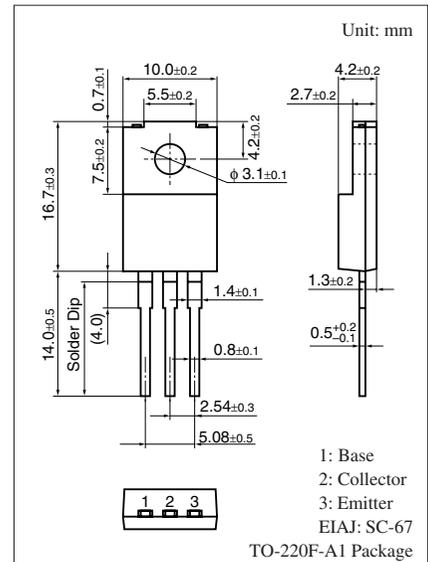
Parameter	Symbol	Conditions	Min	Typ	Max	Unit	
Collector-emitter voltage (Base open)	2SB0942	$I_C = -30 \text{ mA}, I_B = 0$	-60			V	
	2SB0942A		-80				
Base-emitter voltage	V_{BE}	$V_{CE} = -4 \text{ V}, I_C = -3 \text{ A}$			-2	V	
Collector-emitter cutoff current (E-B short)	2SB0942	$V_{CE} = -60 \text{ V}, V_{BE} = 0$			-400	μA	
	2SB0942A				-400		
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -30 \text{ V}, I_B = 0$			-700	μA	
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -5 \text{ V}, I_C = 0$			-1	mA	
Forward current transfer ratio	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				
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}	$I_C = -4 \text{ A}, I_{B1} = -0.4 \text{ A}, I_{B2} = 0.4 \text{ A}$ $V_{CC} = -50 \text{ V}$		0.2		μs	
Storage time	t_{stg}				0.5		μs
Fall time	t_f				0.2		μs

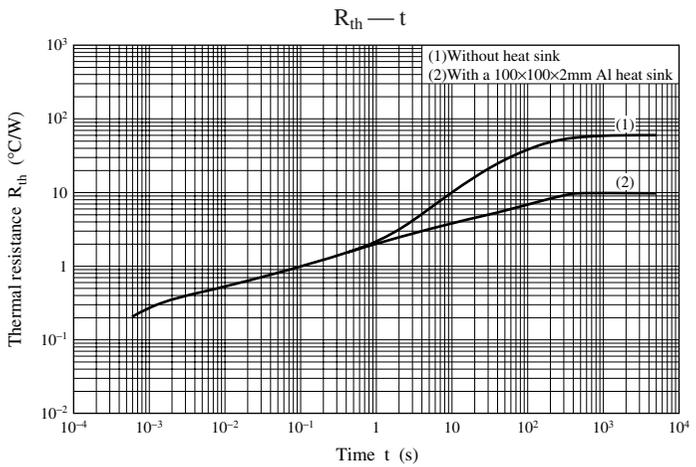
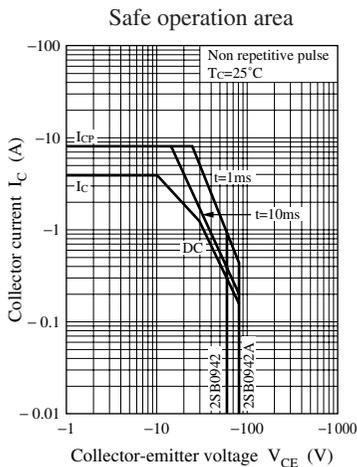
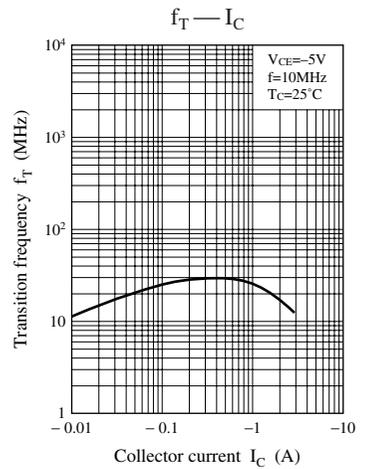
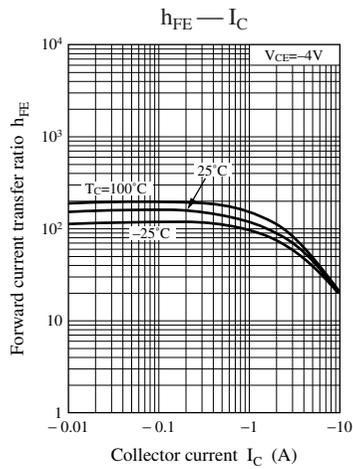
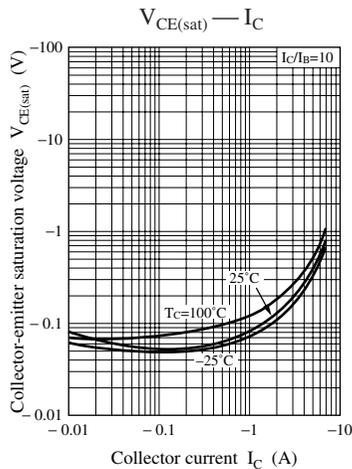
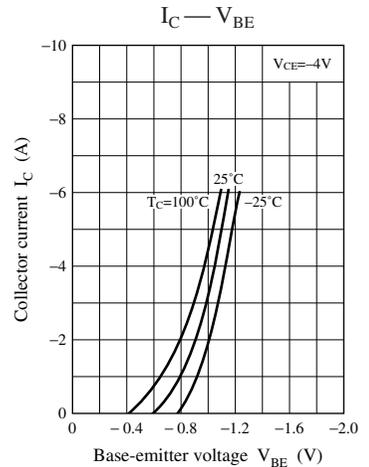
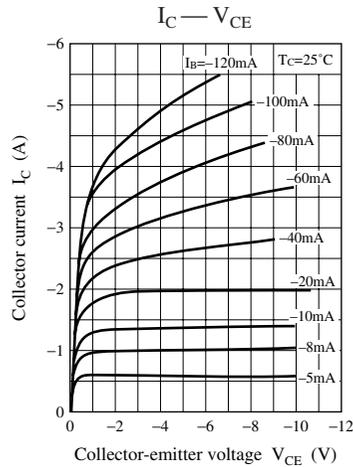
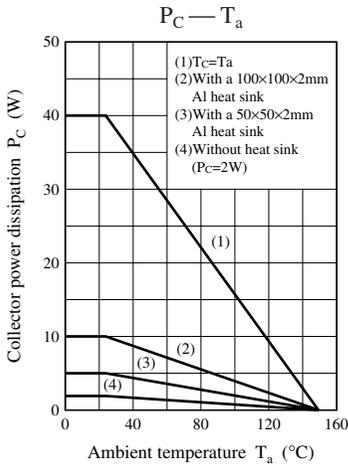
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

Rank	R	Q	P
h_{FE1}	40 to 90	70 to 150	120 to 250

Note) The part numbers in the parenthesis show conventional part number.





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