

# 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	$T_a = 25^\circ\text{C}$	40	W
		2	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

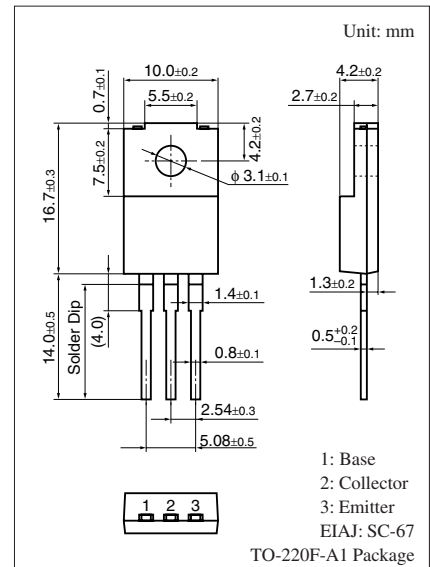
Parameter	Symbol	Conditions	Min	Typ	Max	Unit	
Collector-emitter voltage (Base open)	2SB0942	$I_C = -30 \text{ mA}, I_B = 0$	-60			V	
	2SB0942A		-80				
Base-emitter voltage	$V_{BE}$	$V_{CE} = -4 \text{ V}, I_C = -3 \text{ A}$			-2	V	
Collector-emitter cutoff current (E-B short)	2SB0942	$V_{CE} = -60 \text{ V}, V_{BE} = 0$			-400	$\mu\text{A}$	
	2SB0942A		$V_{CE} = -80 \text{ V}, V_{BE} = 0$		-400		
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = -30 \text{ V}, I_B = 0$			-700	$\mu\text{A}$	
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		$\mu\text{s}$	
Storage time	$t_{stg}$				0.5		$\mu\text{s}$
Fall time	$t_f$				0.2		$\mu\text{s}$

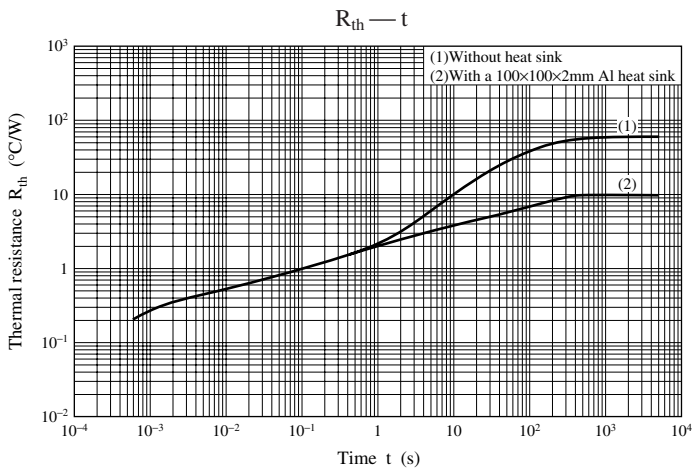
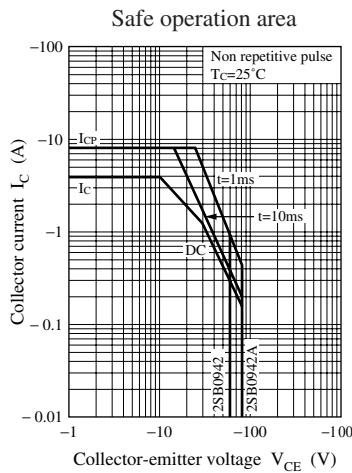
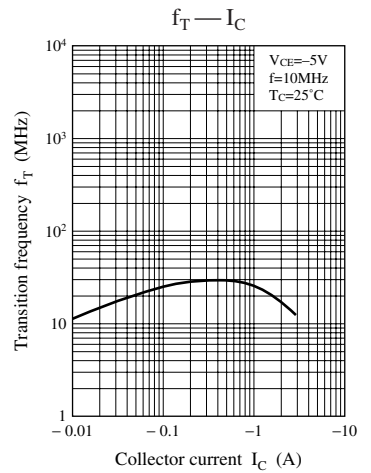
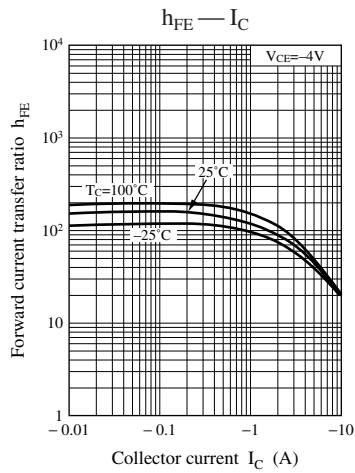
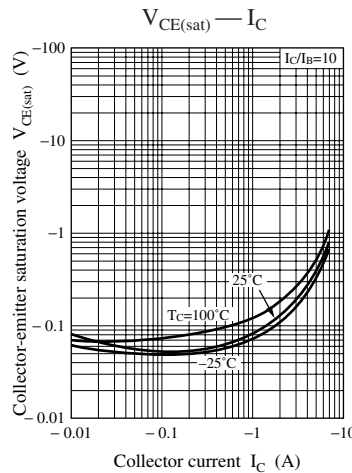
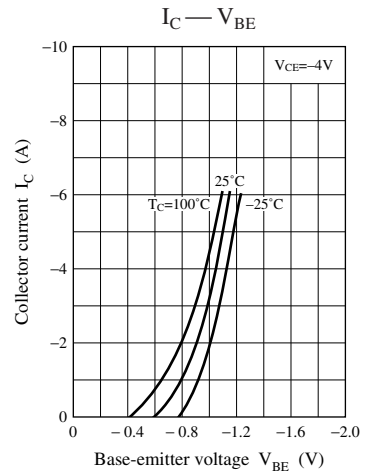
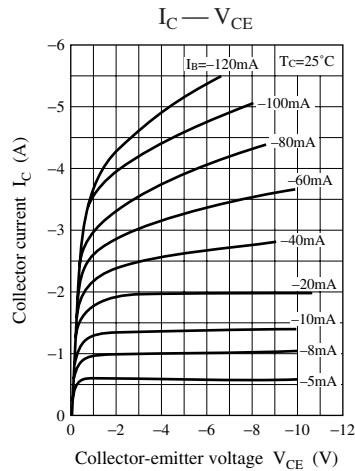
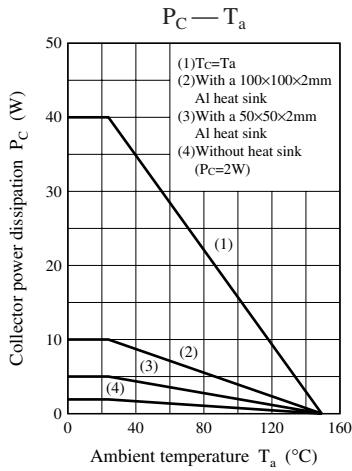
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

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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