

2SB0947 (2SB947), 2SB0947A (2SB947A)

Silicon PNP epitaxial planar type

For low-voltage switching

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- High-speed switching
- 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)	2SB0947 V_{CBO}	-40	V
		-50	
Collector-emitter voltage (Base open)	2SB0947 V_{CEO}	-20	V
		-40	
Emitter-base voltage (Collector open)	V_{EBO}	-5	V
Collector current	I_C	-10	A
Peak collector current	I_{CP}	-15	A
Collector power dissipation	P_C	35	W
		2	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

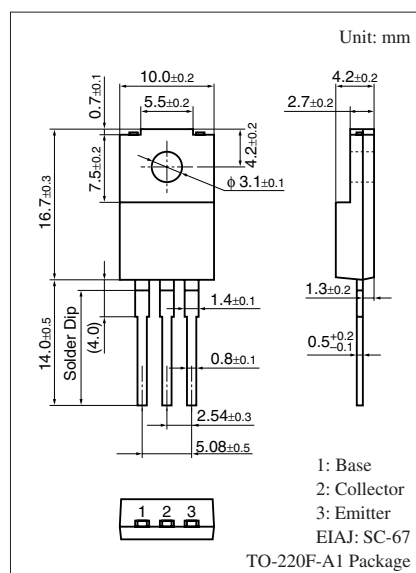
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	2SB0947 V_{CEO}	$I_C = -10\text{ mA}, I_E = 0$	-20			V
			-40			
Collector-base cutoff current (Emitter open)	2SB0947 I_{CBO}	$V_{CB} = -40\text{ V}, I_E = 0$			-50	μA
		$V_{CB} = -50\text{ V}, I_E = 0$			-50	
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$			-50	μA
Forward current transfer ratio	h_{FE1}	$V_{CE} = -2\text{ V}, I_C = -0.1\text{ A}$	45			—
	h_{FE2}^*	$V_{CE} = -2\text{ V}, I_C = -2\text{ A}$	60		260	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -7\text{ A}, I_B = -0.23\text{ A}$			-0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -7\text{ A}, I_B = -0.23\text{ A}$			-1.5	V
Transition frequency	f_T	$V_{CE} = -10\text{ V}, I_C = -0.5\text{ A}, f = 10\text{ MHz}$		150		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$		200		pF
Turn-on time	t_{on}	$I_C = -2\text{ A}, I_{B1} = -66\text{ mA}, I_{B2} = 66\text{ mA}$ $V_{CC} = -20\text{ V}$		0.1		μs
Storage time	t_{stg}			0.5		μs
Fall time	t_f			0.1		μs

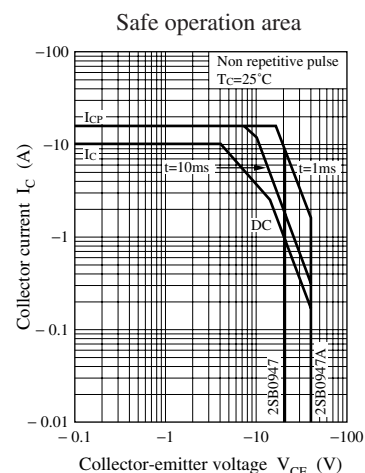
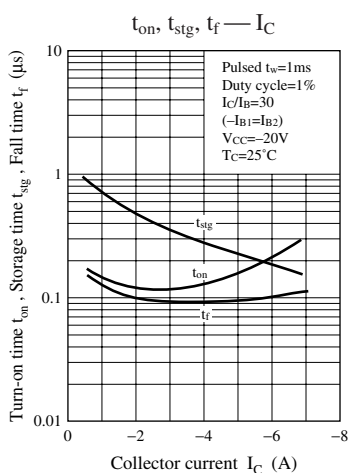
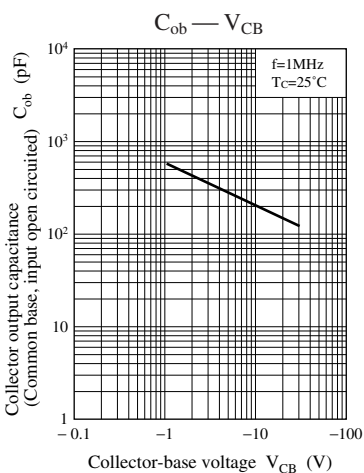
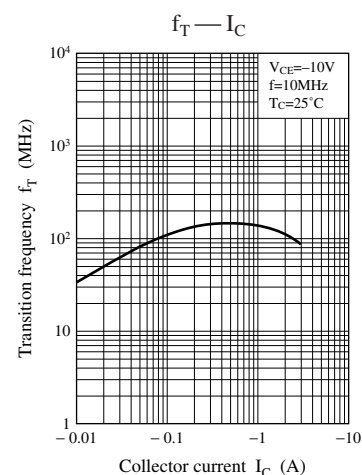
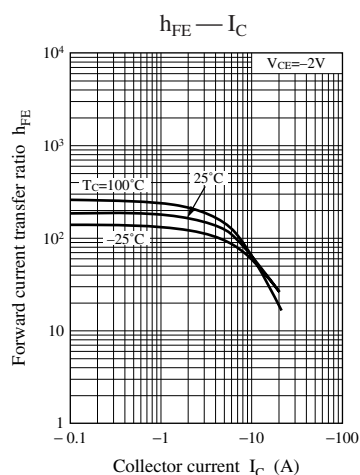
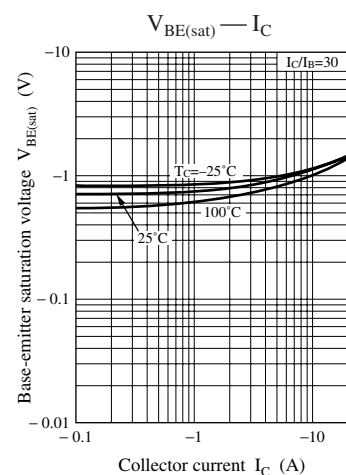
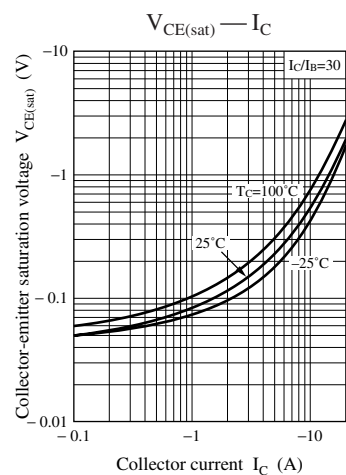
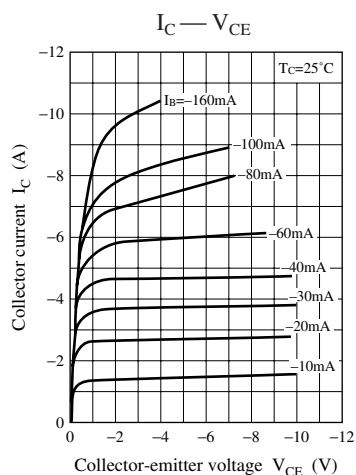
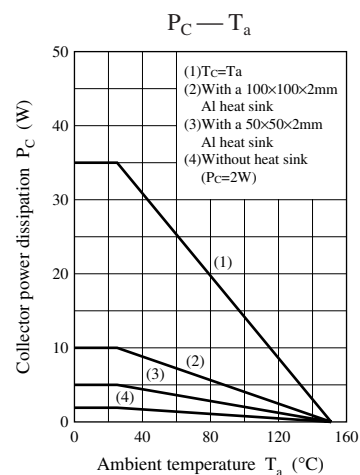
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

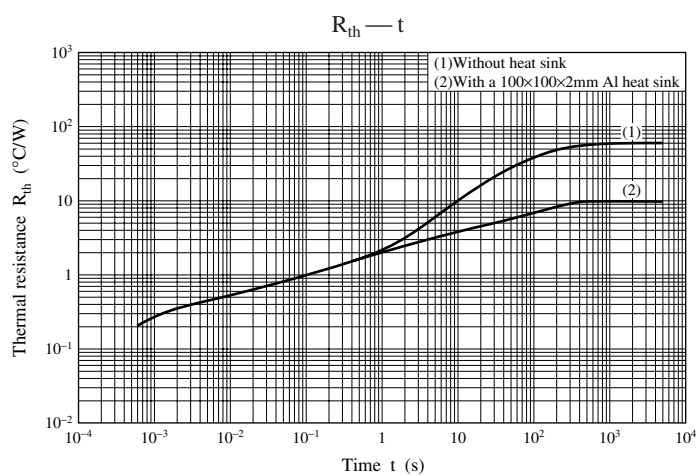
2. *: Rank classification

Rank	R	Q	P
h_{FE2}	60 to 120	90 to 180	130 to 260

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







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