2SB0948 (2SB948), 2SB0948A (2SB948A)

Silicon PNP epitaxial planar type

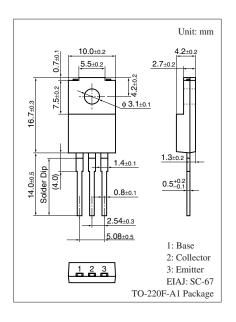
For low-voltage switching

■ Features

- ullet Low collector-emitter saturation voltage $V_{\text{CE(sat)}}$
- High-speed switching
- Full-pack package which can be installed to the heat sink with one screw

■ Absolute Maximum Ratings $T_C = 25$ °C

Parameter	Symbol	Rating	Unit	
Collector-base voltage	2SB0948	V_{CBO}	-40	V
(Emitter open)	2SB0948A		-50	
Collector-emitter voltage	2SB0948	V _{CEO}	-20	V
(Base open)	2SB0948A		-40	
Emitter-base voltage (Coll	V _{EBO}	-5	V	
Collector current	I_{C}	-10	A	
Peak collector current	I_{CP}	-20	A	
Collector power dissipation	P _C	40	W	
	$T_a = 25^{\circ}C$		2	
Junction temperature	T _j	150	°C	
Storage temperature	T _{stg}	-55 to +150	°C	



■ Electrical Characteristics $T_C = 25$ °C ± 3 °C

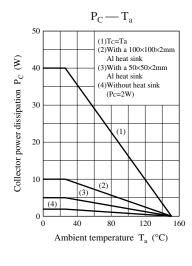
Parameter		Symbol	Conditions	Min	Тур	Max	Unit
Collector-emitter voltage	2SB0948	V _{CEO}	$I_C = -10 \text{ mA}, I_B = 0$	-20			V
(Base open)	2SB0948A			-40			
Collector-base cutoff current (Emitter open)		I_{CBO}	$V_{CB} = -40 \text{ V}, I_E = 0$			-50	μΑ
Emitter-base cutoff current (Collector open)		I_{EBO}	$V_{EB} = -5 \text{ V}, I_C = 0$			-50	μΑ
Forward current transfer ratio		h _{FE1}	$V_{CE} = -2 \text{ V}, I_{C} = -0.1 \text{ A}$	45			_
		h _{FE2} *	$V_{CE} = -2 \text{ V}, I_{C} = -3 \text{ A}$	60		260	
Collector-emitter saturation voltage		V _{CE(sat)}	$I_C = -10 \text{ A}, I_B = -0.33 \text{ A}$			- 0.6	V
Base-emitter saturation voltage		V _{BE(sat)}	$I_C = -10 \text{ A}, I_B = -0.33 \text{ A}$			-1.5	V
Transition frequency		f_T	$V_{CE} = -10 \text{ V}, I_C = -0.5 \text{ A}, f = 10 \text{ MHz}$		100		MHz
Collector output capacitance		C _{ob}	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		400		pF
(Common base, input open circuited)							
Turn-on time		t _{on}	$I_C = -3 A$, $I_{B1} = -0.1 A$, $I_{B2} = 0.1 A$		0.1		μs
Storage time		t _{stg}	$V_{CC} = -20 \text{ V}$		0.5		μs
Fall time		$t_{\rm f}$			0.1		μs

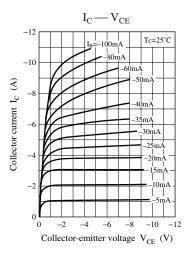
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

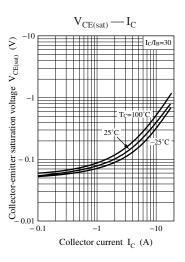
2. *: Rank classification

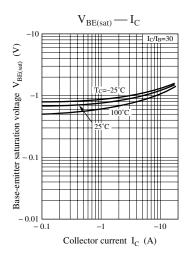
Rank	R	Q	Р	
h_{FE2}	60 to 120	90 to 180	130 to 260	

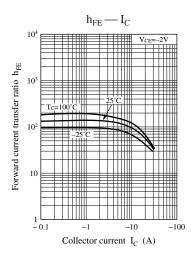
Note) The part numbers in the parenthesis show conventional part number.

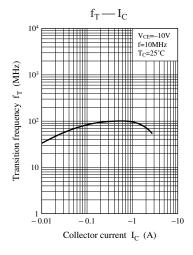


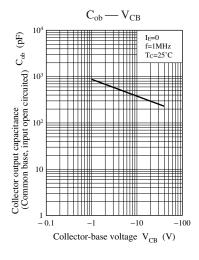


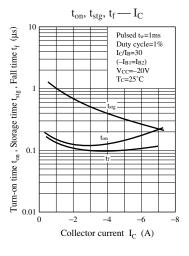


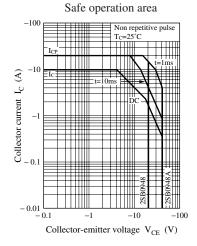


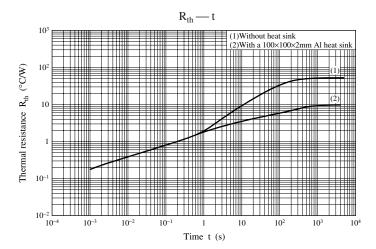












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