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

### Silicon PNP epitaxial planar type

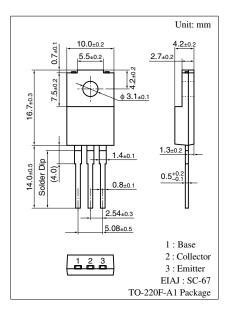
For low-voltage switching Complementary to 2SD1445 and 2SD1445A

#### ■ Features

- ullet Low collector to 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 $T_C = 25$ °C

Parameter		Symbol	Rating	Unit
Collector to base	2SB0948	$V_{CBO}$	-40	V
voltage	2SB0948A		-50	
Collector to	2SB0948	$V_{CEO}$	-20	V
emitter voltage	2SB0948A		-40	
Emitter to base voltage		$V_{EBO}$	-5	V
Peak collector current		$I_{CP}$	-20	A
Collector current		$I_C$	-10	A
Collector power	$T_C = 25^{\circ}C$	$P_{C}$	40	W
dissipation	$T_a = 25^{\circ}C$		2	
Junction temperature		T <sub>j</sub>	150	°C
Storage temperature		$T_{stg}$	-55 to +150	°C



#### ■ Electrical Characteristics $T_C = 25$ °C

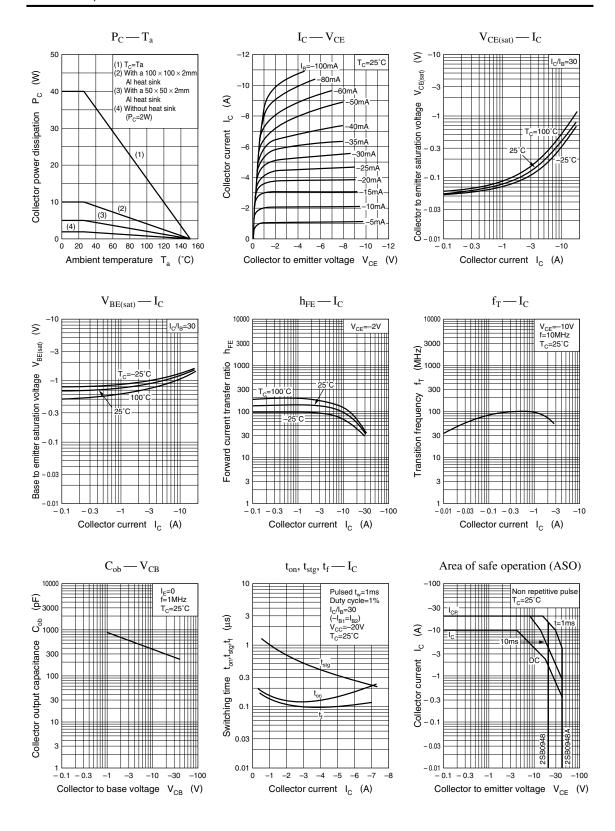
Parameter	r	Symbol	Conditions	Min	Тур	Max	Unit
Collector cutoff current		$I_{CBO}$	$V_{CB} = -40 \text{ V}, I_E = 0$			-50	μΑ
Emitter cutoff current		$I_{EBO}$	$V_{EB} = -5 \text{ V}, I_C = 0$			-50	μΑ
Collector to emitter	2SB0948	V <sub>CEO</sub>	$I_{\rm C} = -10 \text{ mA}, I_{\rm B} = 0$	-20			V
voltage	2SB0948A			-40			
Forward current transfer ratio		h <sub>FE1</sub>	$V_{CE} = -2 \text{ V}, I_{C} = -0.1 \text{ A}$	45			
		h <sub>FE2</sub> *	$V_{CE} = -2 \text{ V}, I_C = -3 \text{ A}$	90		260	
Collector to emitter saturation voltage		V <sub>CE(sat)</sub>	$I_C = -10 \text{ A}, I_B = -0.33 \text{ A}$			- 0.6	V
Base to emitter saturation voltage		V <sub>BE(sat)</sub>	$I_C = -10 \text{ A}, I_B = -0.33 \text{ A}$			-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 capac	itance	C <sub>ob</sub>	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		400		pF
Turn-on time		t <sub>on</sub>	$I_C = -3 \text{ A}, I_{B1} = -0.1 \text{ A}, I_{B2} = 0.1 \text{ A}$		0.1		μs
Storage time		t <sub>stg</sub>			0.5		μs
Fall time		$t_{\rm f}$			0.1		μs

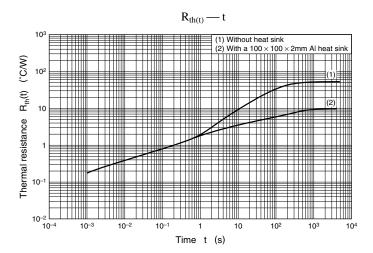
Note) \*: Rank classification

Rank	Q	Р		
h <sub>FE2</sub>	90 to 180	130 to 260		

Note.) The Part numbers in the Parenthesis show conventional part number.

Panasonic 97





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