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

Silicon PNP epitaxial planar type

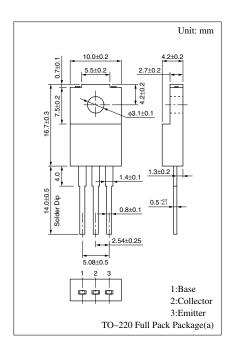
For low-voltage switching

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	Ratings	Unit	
Collector to	2SB0947	37	-40	V	
base voltage	2SB0947A	V_{CBO}	-50		
Collector to	2SB0947	**	-20	V	
emitter voltage	2SB0947A	V_{CEO}	-40		
Emitter to base voltage		V_{EBO}	-5	V	
Peak collector current		I_{CP}	-15	A	
Collector current		I_{C}	-10	A	
Collector power	T _C =25°C	D	35	W	
dissipation	Ta=25°C	P_{C}	2		
Junction temperature		T _j	150	°C	
Storage temperature		T_{stg}	-55 to +150	°C	



Electrical Characteristics ($T_C=25^{\circ}C$)

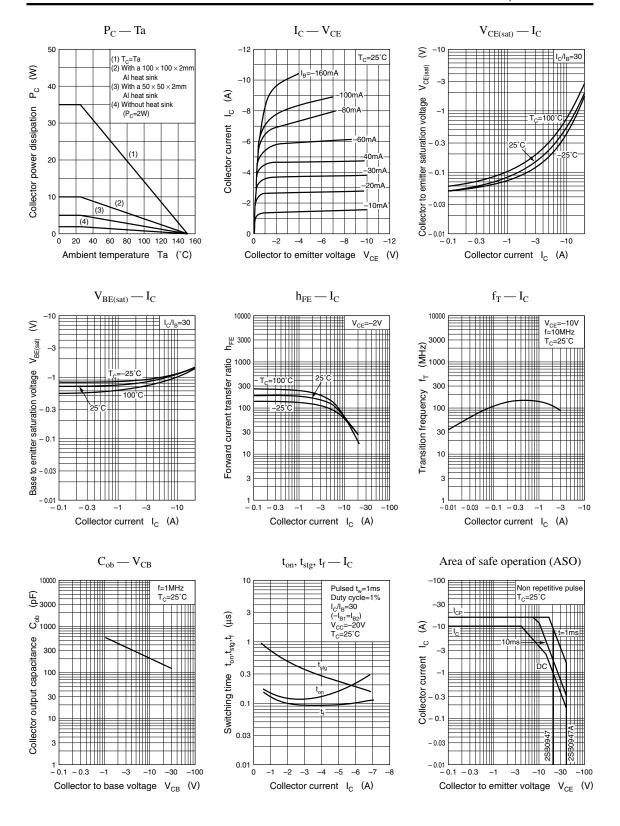
Parameter		Symbol	Conditions	min	typ	max	Unit	
Collector cutoff	2SB0947	т.	$V_{CB} = -40V, I_{E} = 0$			-50		
current	2SB0947A	I _{CBO}	$V_{CB} = -50V, I_E = 0$			-50	μΑ	
Emitter cutoff current		I _{EBO}	$V_{EB} = -5V, I_{C} = 0$			-50	μА	
Collector to emitter	2SB0947	V_{CEO} $I_C = -10 \text{mA}$	I 10 A I 0	-20			V	
voltage	2SB0947A		$I_C = -10 \text{mA}, I_B = 0$	-40				
Forward current transfer ratio		h _{FE1}	$V_{CE} = -2V, I_C = -0.1A$	45				
		h _{FE2} *	$V_{CE} = -2V, I_{C} = -2A$	90		260		
Collector to emitter saturation voltage		V _{CE(sat)}	$I_C = -7A$, $I_B = -0.23A$			- 0.6	V	
Base to emitter saturation voltage		V _{BE(sat)}	$I_C = -7A$, $I_B = -0.23A$			-1.5	V	
Transition frequency		f_T	$V_{CE} = -10V$, $I_C = -0.5A$, $f = 10MHz$		150		MHz	
Collector output capacitance		C _{ob}	$V_{CB} = -10V$, $I_E = 0$, $f = 1MHz$		200		pF	
Turn-on time		t _{on}	$I_C = -2A$, $I_{B1} = -66mA$, $I_{B2} = 66mA$		0.1		μs	
Storage time		t _{stg}			0.5		μs	
Fall time		$t_{\rm f}$			0.1		μs	

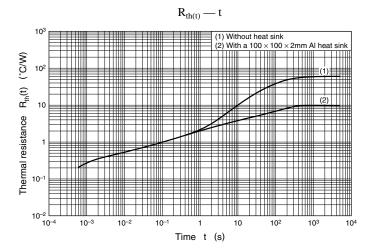
*hFE2 Rank classification

Rank	Q	P		
h _{FE2}	90 to 180	130 to 260		

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

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