

Silicon PNP Power Transistors

2SB947 2SB947A

DESCRIPTION

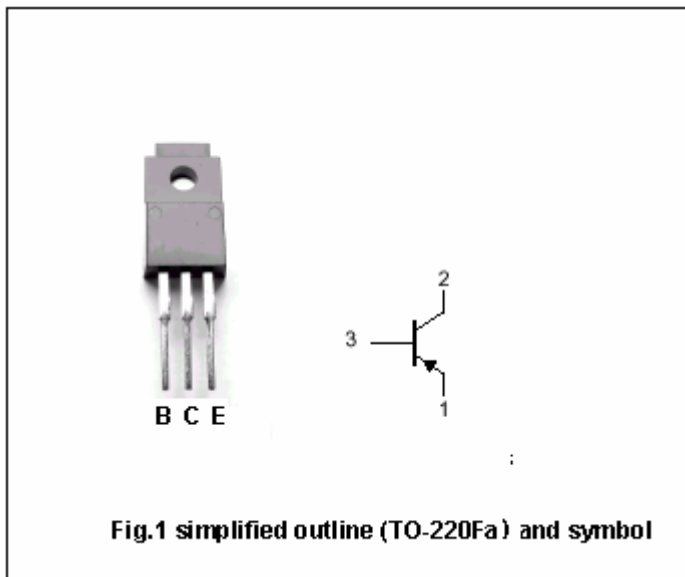
- With TO-220Fa package
- High speed switching
- Low collector saturation voltage

APPLICATIONS

- For low-voltage switching applications

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base



Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	2SB947	-40	V
		2SB947A	-50	
V _{CEO}	Collector-emitter voltage	2SB947	-20	V
		2SB947A	-40	
V _{EBO}	Emitter-base voltage	Open collector	-5	V
I _C	Collector current		-10	A
I _{CM}	Collector current-peak		-15	A
P _C	Collector power dissipation	T _a =25°C	2	W
		T _C =25°C	35	
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-55~150	°C

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V _{CEO}	Collector-emitter voltage	2SB947	I _C =-10mA; I _B =0	-20			V
		2SB947A		-40			
V _{CEsat}	Collector-emitter saturation voltage	I _C =-7A; I _B =-0.23A			-0.6	V	
V _{BEsat}	Base-emitter saturation voltage	I _C =-7A; I _B =-0.23A			-1.5	V	
I _{CBO}	Collector cut-off current	2SB947	V _{CB} =-40V; I _E =0			-50	μA
		2SB947A		V _{CB} =-50V; I _E =0			
I _{EBO}	Emitter cut-off current	V _{EB} =-5V; I _C =0			-50	μA	
h _{FE-1}	DC current gain	I _C =-0.1A; V _{CE} =-2V	45				
h _{FE-2}	DC current gain	I _C =-2A; V _{CE} =-2V	90		260		
f _T	Transition frequency	I _C =-0.5A; V _{CE} =-10V, f=10MHz		150		MHz	
C _{OB}	Collector output capacitance	f=1MHz; V _{CB} =-10V		200		pF	
t _{on}	Trun-on time	I _C =-2A; I _{B1} =-I _{B2} =-66mA		0.1		μs	
t _s	Storage time			0.5		μs	
t _f	Fall time			0.1		μs	

◆ h_{FE-2} Classifications

Q	P
90-180	130-260

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PACKAGE OUTLINE

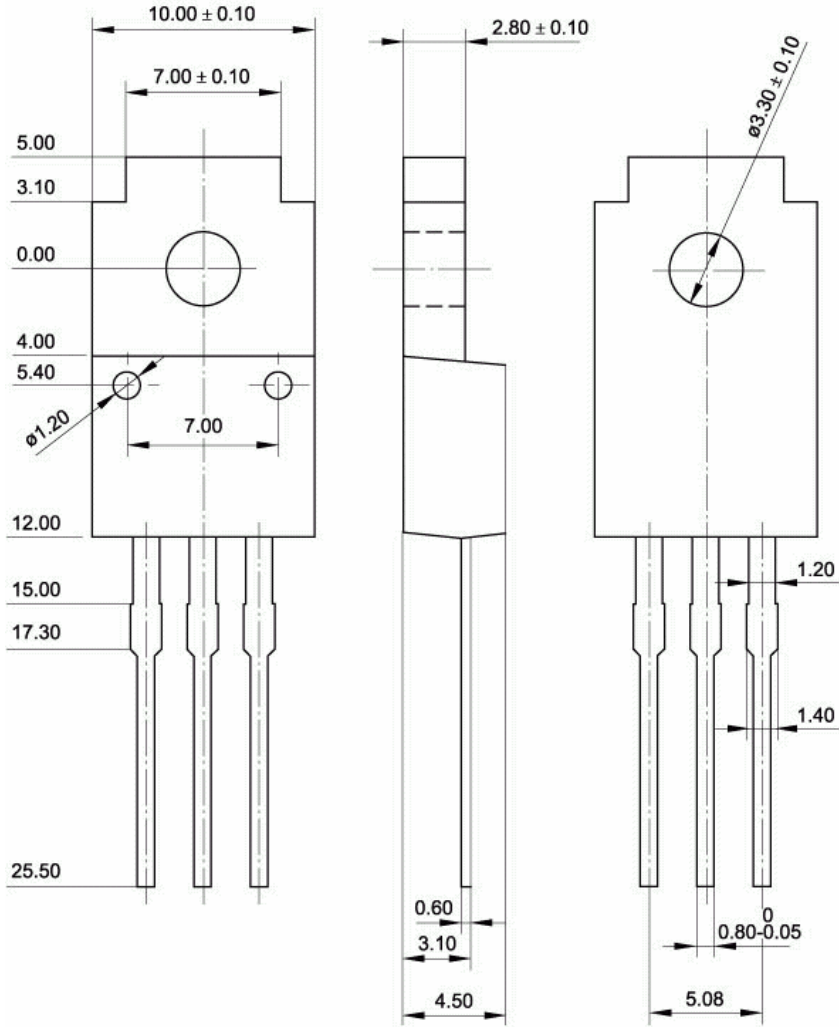


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)

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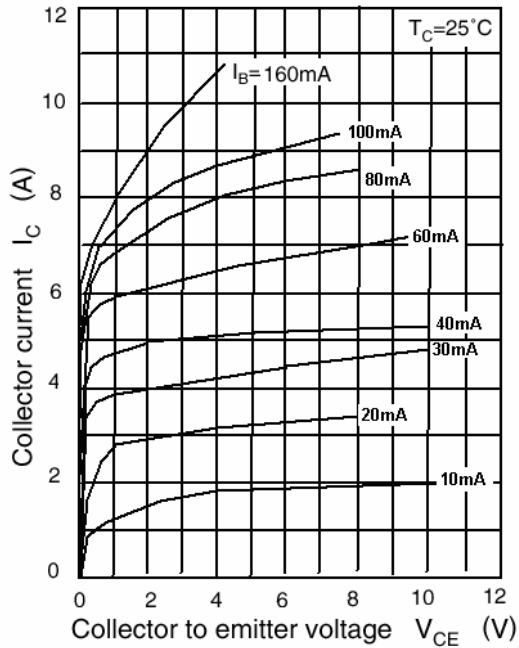


Fig.3 Static Characteristic

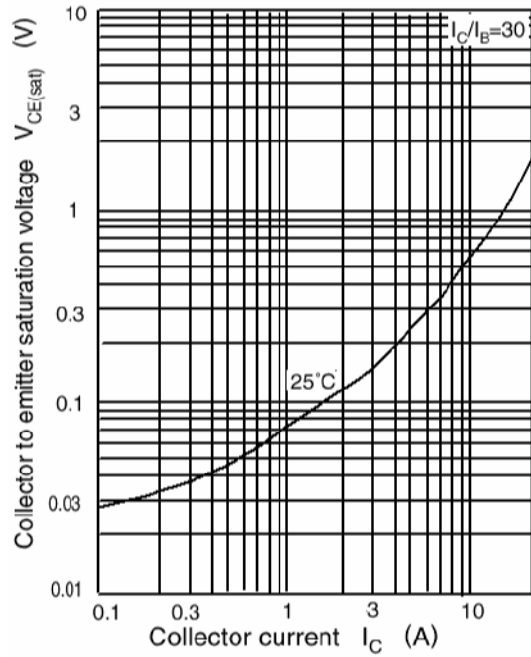


Fig.4 Collector-Emitter Saturation Voltage

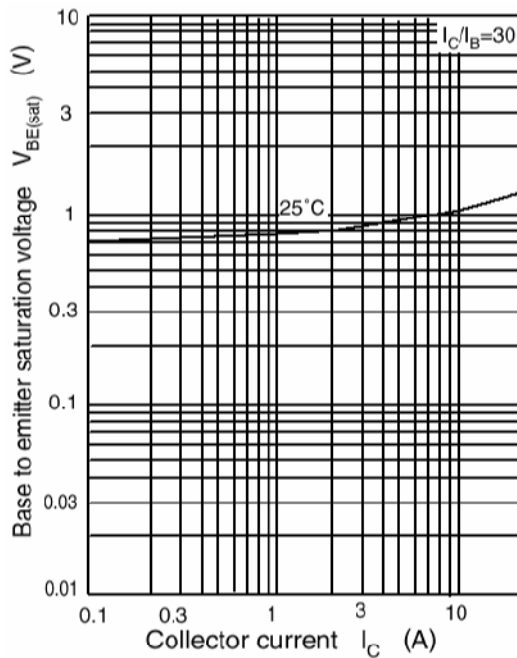


Fig.5 Base-Emitter Saturation Voltage

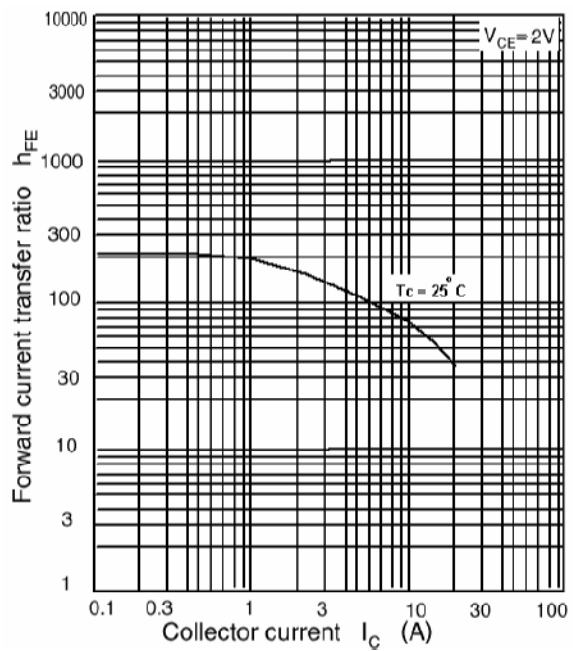


Fig.6 DC current Gain

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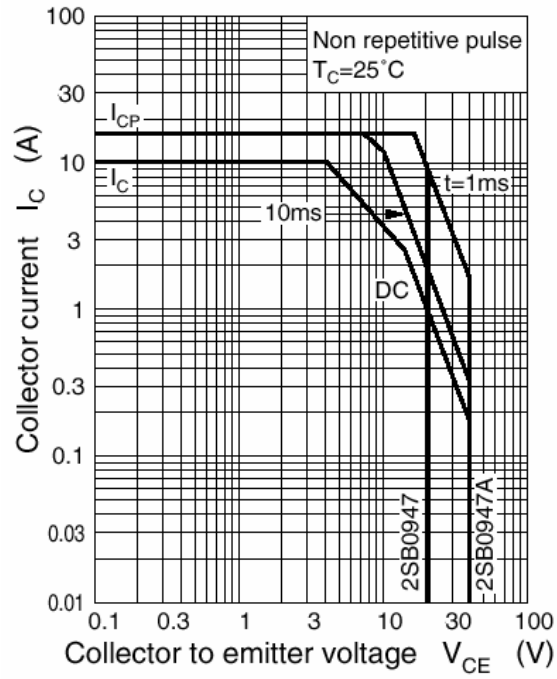


Fig.7 Safe Operating Area