

Silicon PNP Power Transistors

2SB953 2SB953A

DESCRIPTION

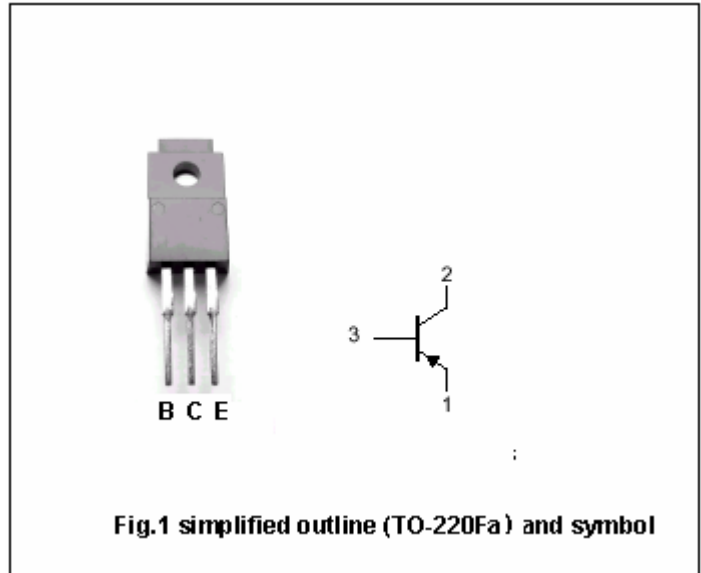
- With TO-220Fa package
- Complement to type 2SD1444/1444A
- High speed switching
- Low collector saturation voltage

APPLICATIONS

- For low-voltage switching

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base

Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2SB953	-40	V
		2SB953A	-50	
V_{CEO}	Collector-emitter voltage	2SB953	-20	V
		2SB953A	-40	
V_{EBO}	Emitter-base voltage	Open collector	-5	V
I_C	Collector current		-7	A
I_{CM}	Collector current-peak		-12	A
P_C	Collector power dissipation	$T_a=25^\circ\text{C}$	2	W
		$T_C=25^\circ\text{C}$	30	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO}	Collector-emitter voltage	2SB953	I _C =-10mA ; I _B =0	-20		V
		2SB953A		-40		
V _{CEsat}	Collector-emitter saturation voltage	I _C =-5A ; I _B =-0.16A			-0.6	V
V _{BEsat}	Base-emitter saturation voltage	I _C =-5A ; I _B =-0.16A			-1.5	V
I _{CBO}	Collector cut-off current	2SB953	V _{CB} =-40V ; I _E =0		-50	μA
		2SB953A		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		140		pF

Switching times

t _{on}	Trun-on time	I _C =-2A I _{B1} =-66mA, I _{B2} =66mA		0.1		μs
t _s	Storage time			0.5		μs
t _f	Fall time			0.1		μs

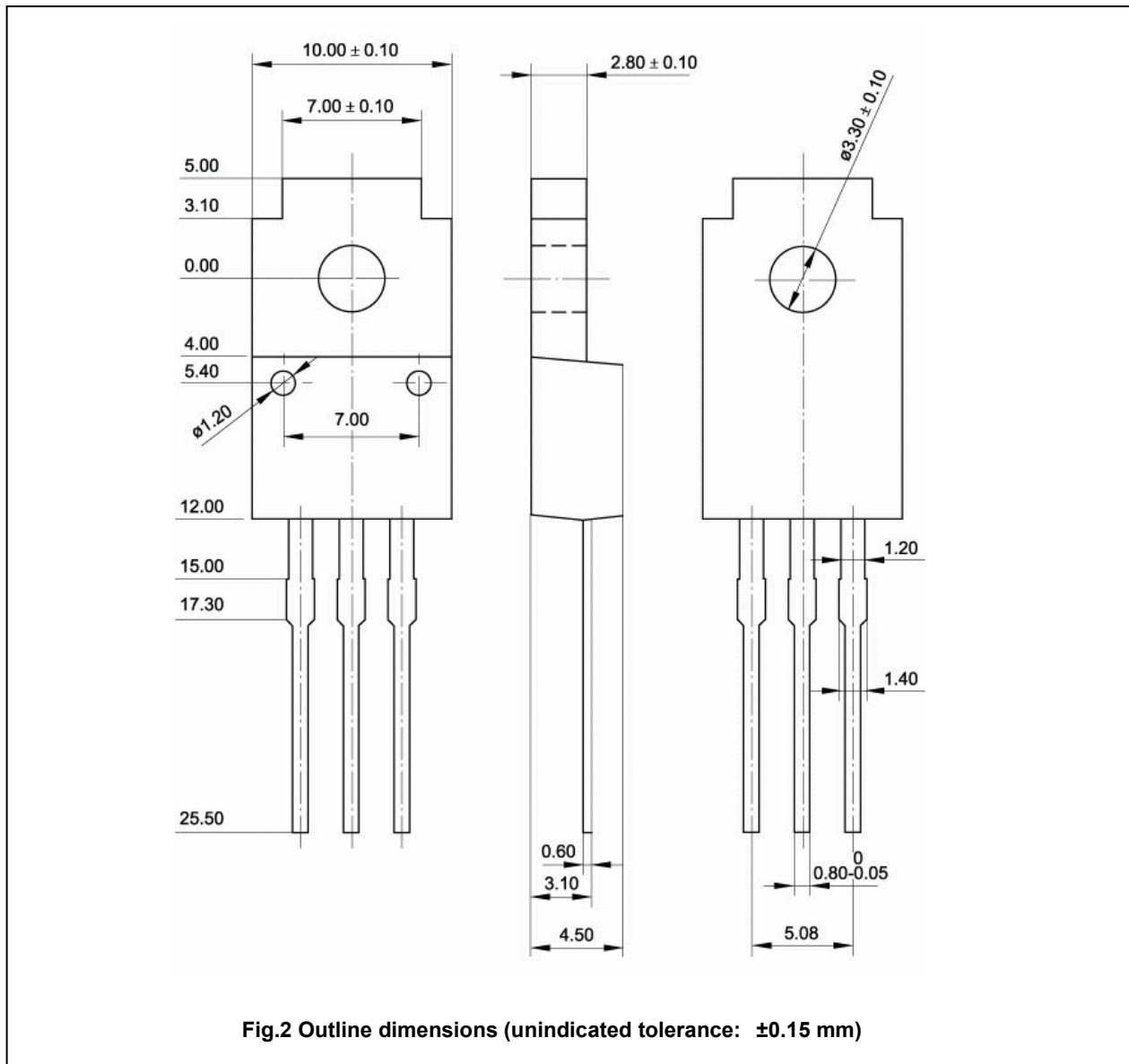
◆ h_{FE-2} Classifications

Q	P
90-180	130-260

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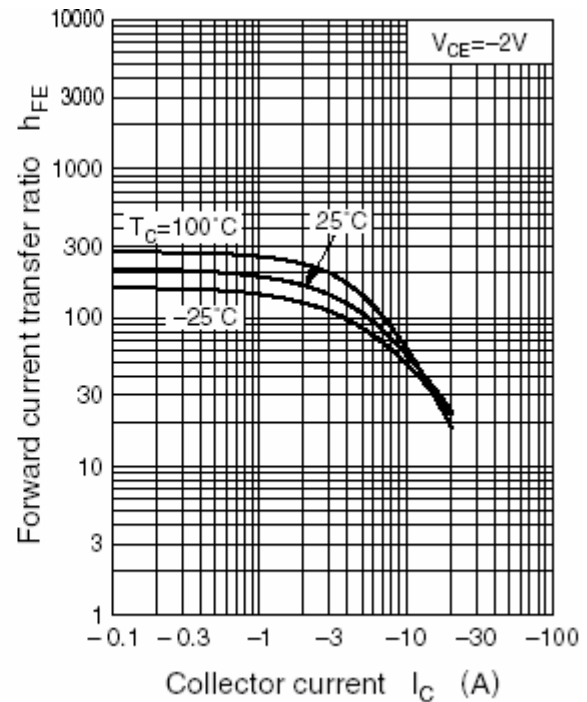
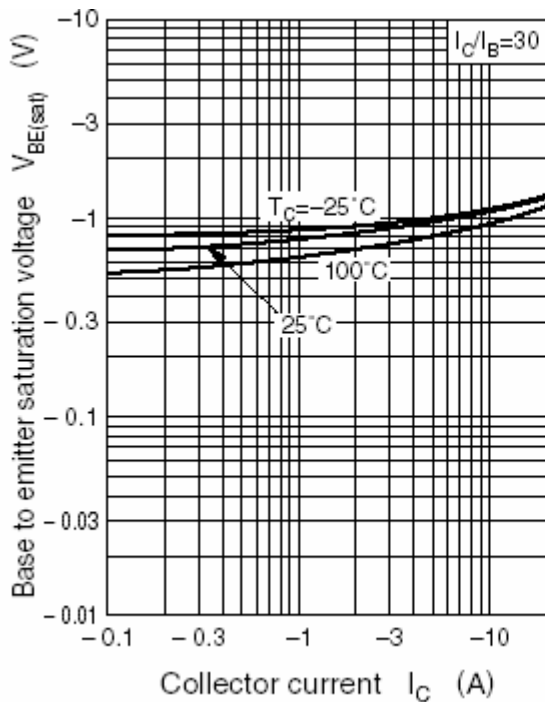
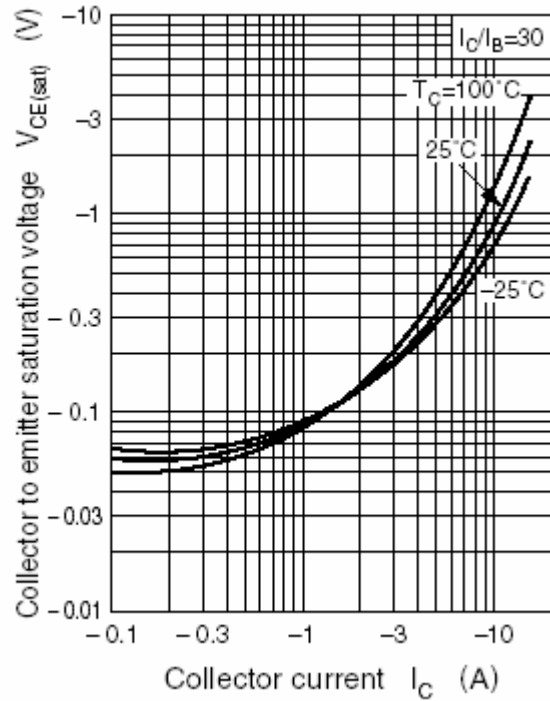
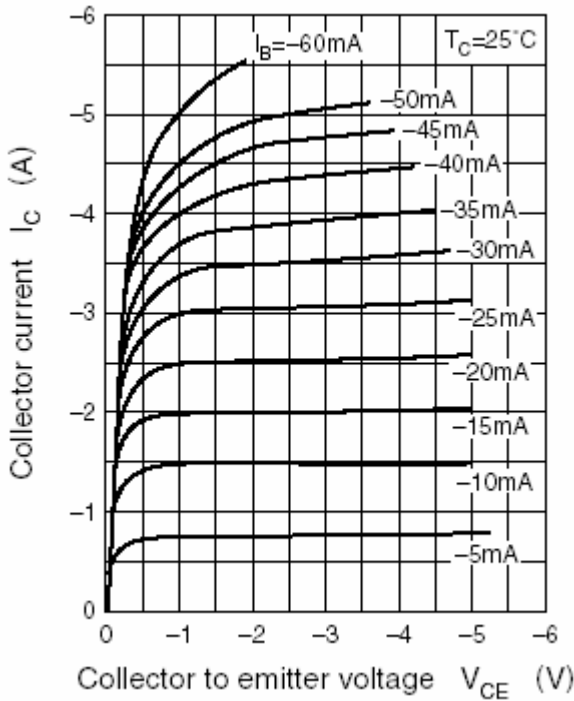
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PACKAGE OUTLINE



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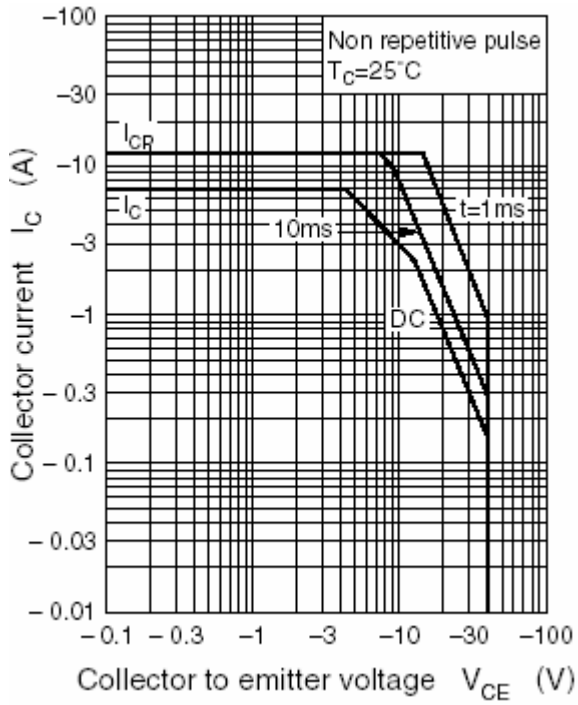


Fig.7 Safe Operating Area

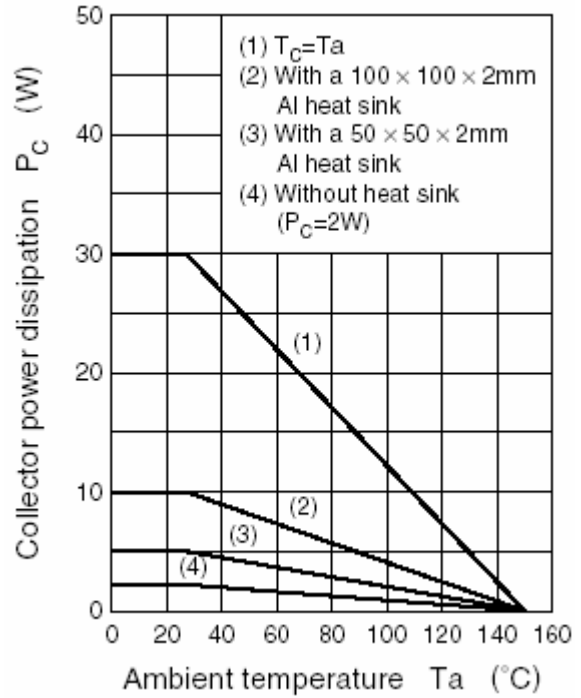


Fig.8 P_C - T_a Derating