

Silicon NPN Power Transistors

2SD1444 2SD1444A

DESCRIPTION

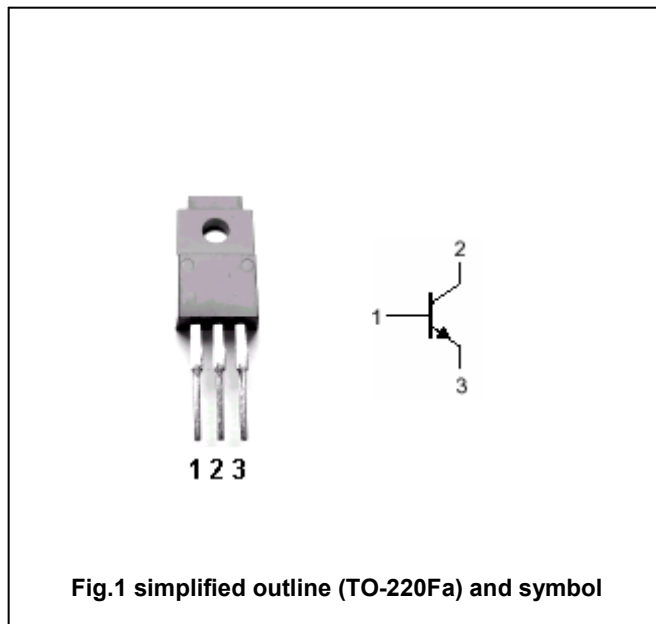
- With TO-220Fa package
- Low collector saturation voltage
- High speed switching
- High collector current
- Complement to type 2SB953/953A

APPLICATIONS

- Power amplifiers
- Low voltage switching

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2SD1444	40	V
		2SD1444A	50	
V_{CEO}	Collector-emitter voltage	2SD1444	20	V
		2SD1444A	40	
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current (DC)		7	A
I_{CM}	Collector current-peak		12	A
P_C	Collector power dissipation	$T_c=25^\circ\text{C}$	30	W
		$T_a=25^\circ\text{C}$	2	
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 _{(BR)CEO}	Collector-emitter breakdown voltage	2SD1444	I _C =10mA, I _B =0	20			V
		2SD1444A		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	2SD1444	V _{CB} =40V; I _E =0			50	μA
		2SD1444A	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	60		260	
f _T	Transition frequency		I _C =0.5A; V _{CE} =10V		150		MHz
C _{OB}	Output capacitance		I _E =0; V _{CB} =10V; f=1MHz		110		pF

Switching times

t _{on}	Turn-on time	I _C =2A; I _{B1} =-I _{B2} =66mA		0.3		μs
t _{stg}	Storage time			0.3		μs
t _f	Fall time			0.1		μs

◆ h_{FE-2} Classifications

R	Q	P
60-120	90-180	130-260

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PACKAGE OUTLINE

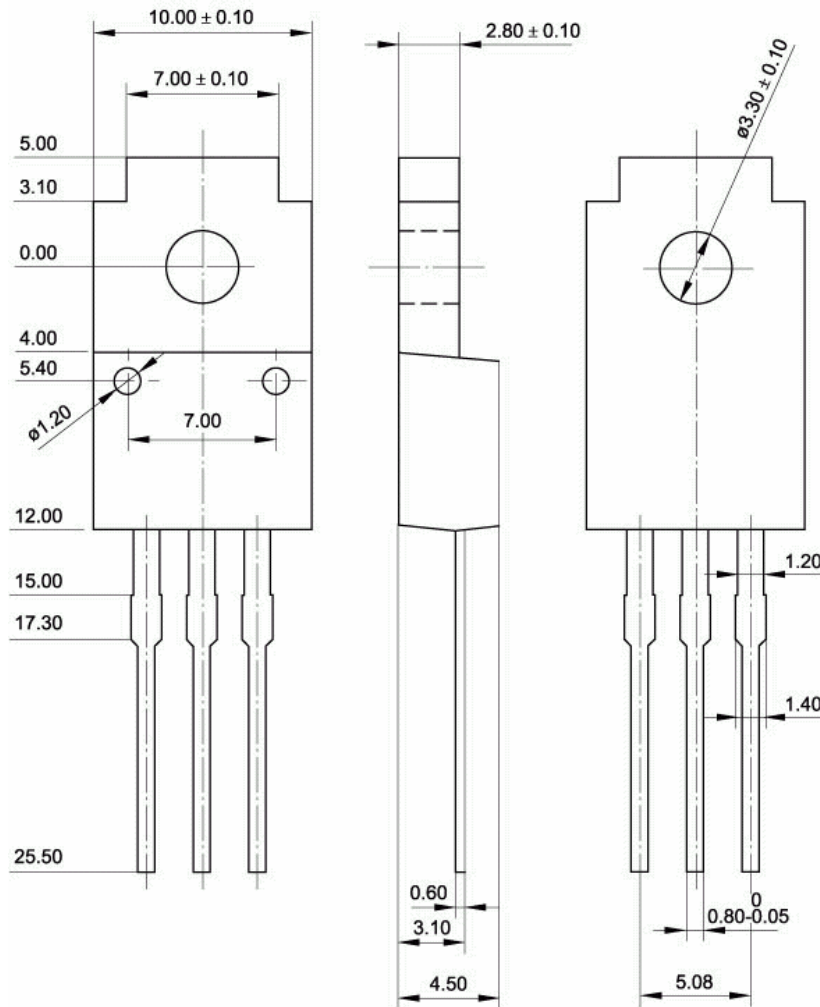


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)