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

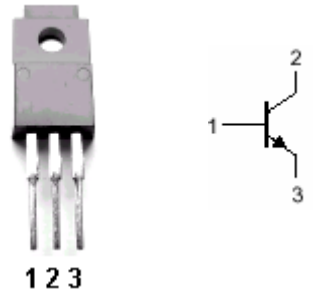

Fig.1 simplified outline (TO-220Fa) and symbol

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

Absolute maximum ratings(Ta=25℃)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2SD1444	Open emitter	40	V
		2SD1444A		50	
V_{CEO}	Collector-emitter voltage	2SD1444	Open base	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℃	30	W
			T_a=25℃	2	
T_j	Junction temperature			150	℃
T_{stg}	Storage temperature			-55~150	℃

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CHARACTERISTICS

Tj=25℃ 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

PACKAGE OUTLINE

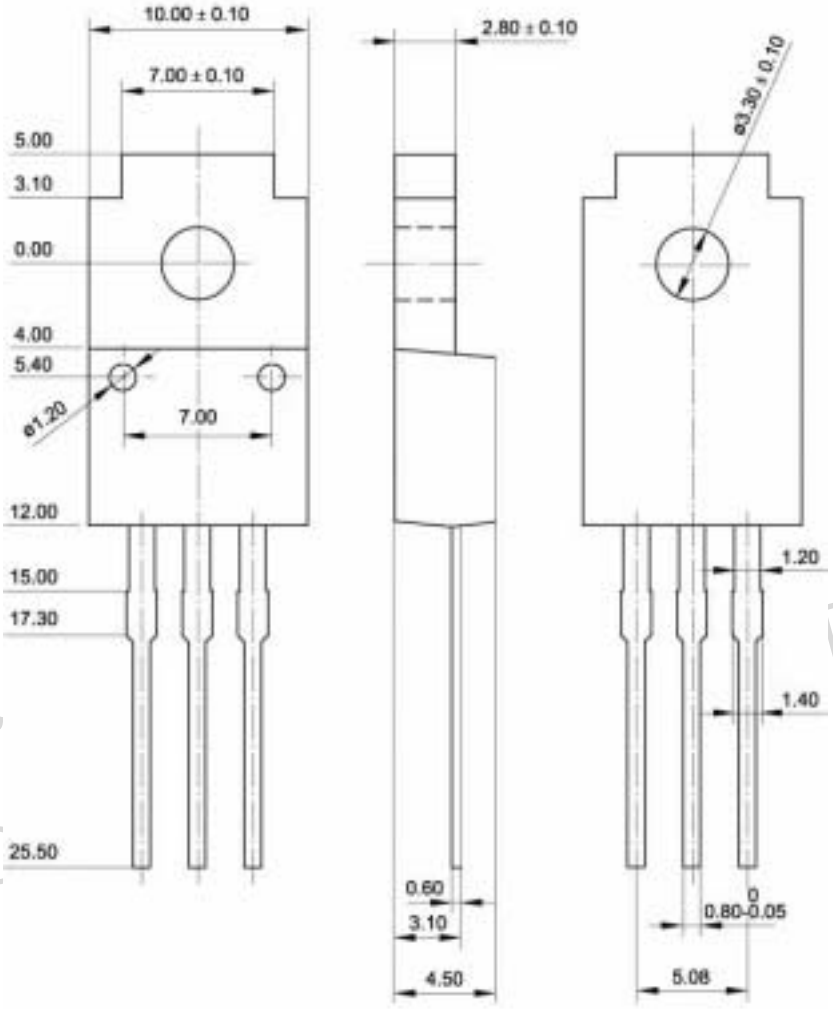

Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)