

**Silicon PNP Power Transistors**

**2SA1443**

**DESCRIPTION**

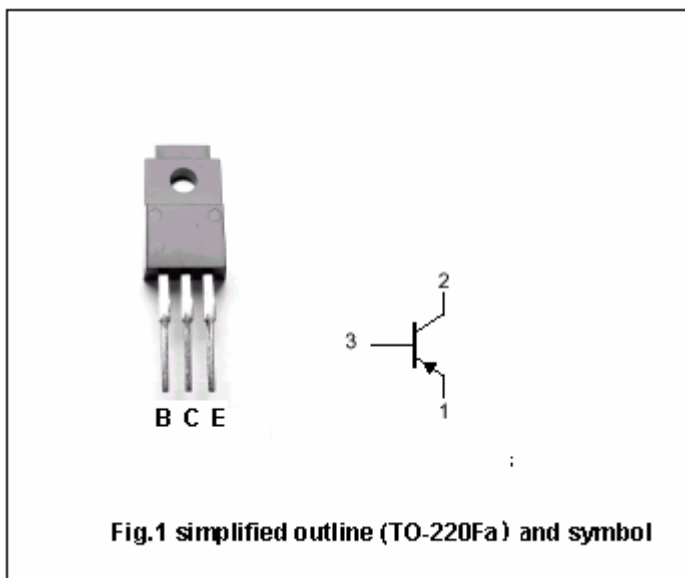
- With TO-220Fa package
- Low collector saturation voltage
- Fast switching speed
- High DC current gain

**APPLICATIONS**

- High speed power switching applications

**PINNING**

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base



**Absolute maximum ratings(Ta=25 )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	-100	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	-60	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-7	V
I <sub>C</sub>	Collector current		-10	A
I <sub>CM</sub>	Collector current-peak		-20	A
I <sub>B</sub>	Base current		-5	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	30	W
		T <sub>a</sub> =25	2	
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-55~150	

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## CHARACTERISTICS

T<sub>j</sub>=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =-6A, I <sub>B</sub> =-0.6A; L=1mH	-60			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-6A, I <sub>B</sub> =-0.3A			-0.3	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-8A, I <sub>B</sub> =-0.4A			-0.5	V
V <sub>BEsat-1</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-6A, I <sub>B</sub> =-0.3A			-1.2	V
V <sub>BEsat-2</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-8A, I <sub>B</sub> =-0.4A			-1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =-60V, I <sub>E</sub> =0			-10	μA
I <sub>CEX</sub>	Collector cut-off current	V <sub>CE</sub> =-60V, V <sub>BE</sub> =1.5V T <sub>a</sub> =125			-10 -1.0	μA mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V, I <sub>C</sub> =0			-10	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-1A; V <sub>CE</sub> =-2V	100			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-2A; V <sub>CE</sub> =-2V	100		400	
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =-6A; V <sub>CE</sub> =-2V	60			
C <sub>ob</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =-10V, f=1MHz		230		pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-1A; V <sub>CE</sub> =-10V		80		MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =-6A; R <sub>L</sub> =8.3 I <sub>B1</sub> =- I <sub>B2</sub> =-0.3A V <sub>CC</sub> -50V			0.3	μs
t <sub>s</sub>	Storage time				1.5	μs
t <sub>f</sub>	Fall time				0.3	μs

◆ h<sub>FE-2</sub> Classifications

M	L	K
100-200	150-300	200-400

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PACKAGE OUTLINE

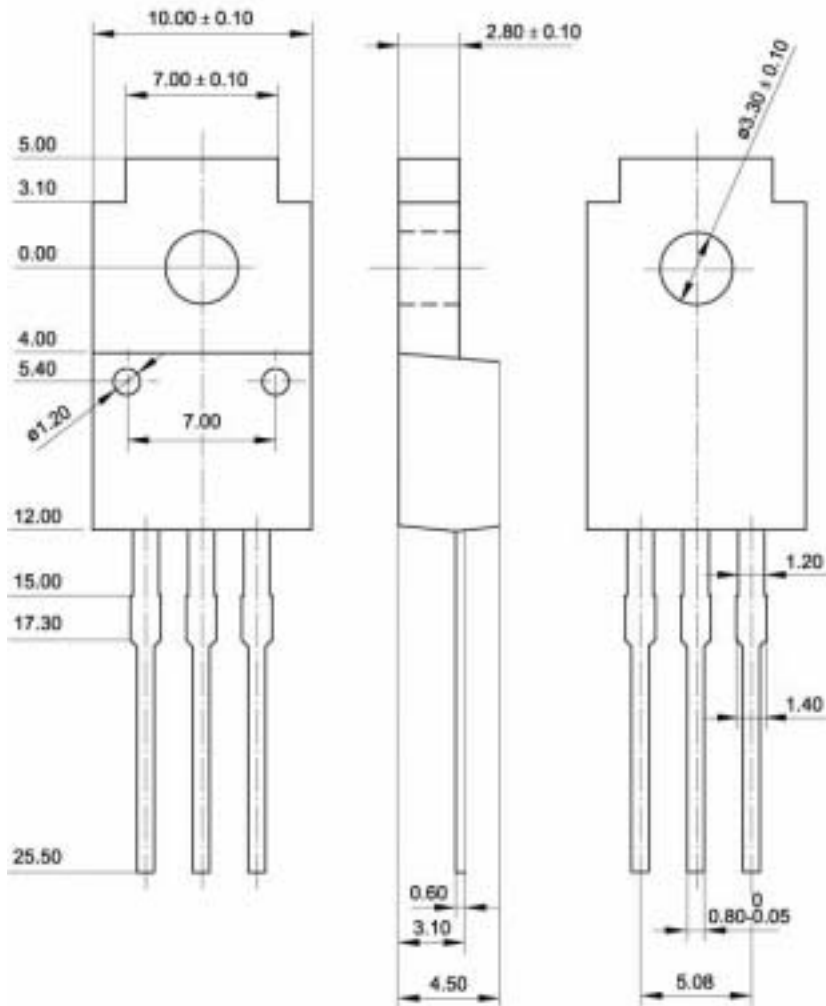


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)