

**Silicon Power Transistors**

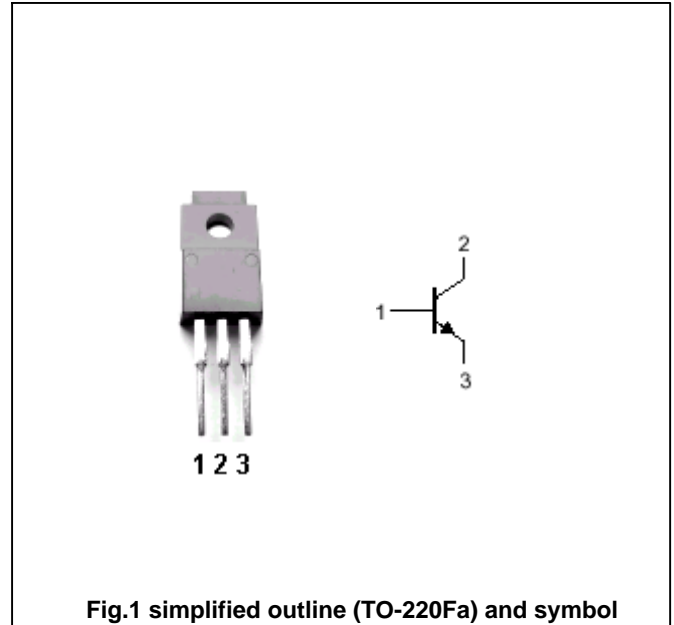
**2SC3979**

**DESCRIPTION**

- With TO-220Fa package
- High breakdown voltage
- High speed switching
- Wide area of safe operation (SOA)
- Full-pack package which can be installed to the heat sink with one screw

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	emitter



**ABSOLUTE MAXIMUM RATINGS AT Tc=25**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CB0</sub>	Collector-base voltage	Open emitter	900	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	800	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current (DC)		3	A
I <sub>CM</sub>	Collector current-Peak		5	A
I <sub>B</sub>	Base current		1	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	40	W
P <sub>C</sub>	Collector power dissipation	T <sub>a</sub> =25	2	W
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</sub>	Collector-emitter voltage	I <sub>C</sub> =10mA, I <sub>B</sub> =0	800			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =0.8A I <sub>B</sub> =0.16A			1.5	V
V <sub>BEsat</sub>	Emitter-base saturation voltage	I <sub>C</sub> =0.8A I <sub>B</sub> =0.16A			1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =900V I <sub>E</sub> =0			50	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =7V; I <sub>C</sub> =0			50	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.1A; V <sub>CE</sub> =5V	8			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =0.8A; V <sub>CE</sub> =5V	6			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.15A; V <sub>CE</sub> =5V		10		MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =0.8A ; I <sub>B1</sub> =0.8A I <sub>B2</sub> =-0.32A V <sub>CC</sub> =250V			0.7	μs
t <sub>s</sub>	Storage time				2.5	μs
t <sub>f</sub>	Fall time				0.3	μs

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PACKAGE OUTLINE

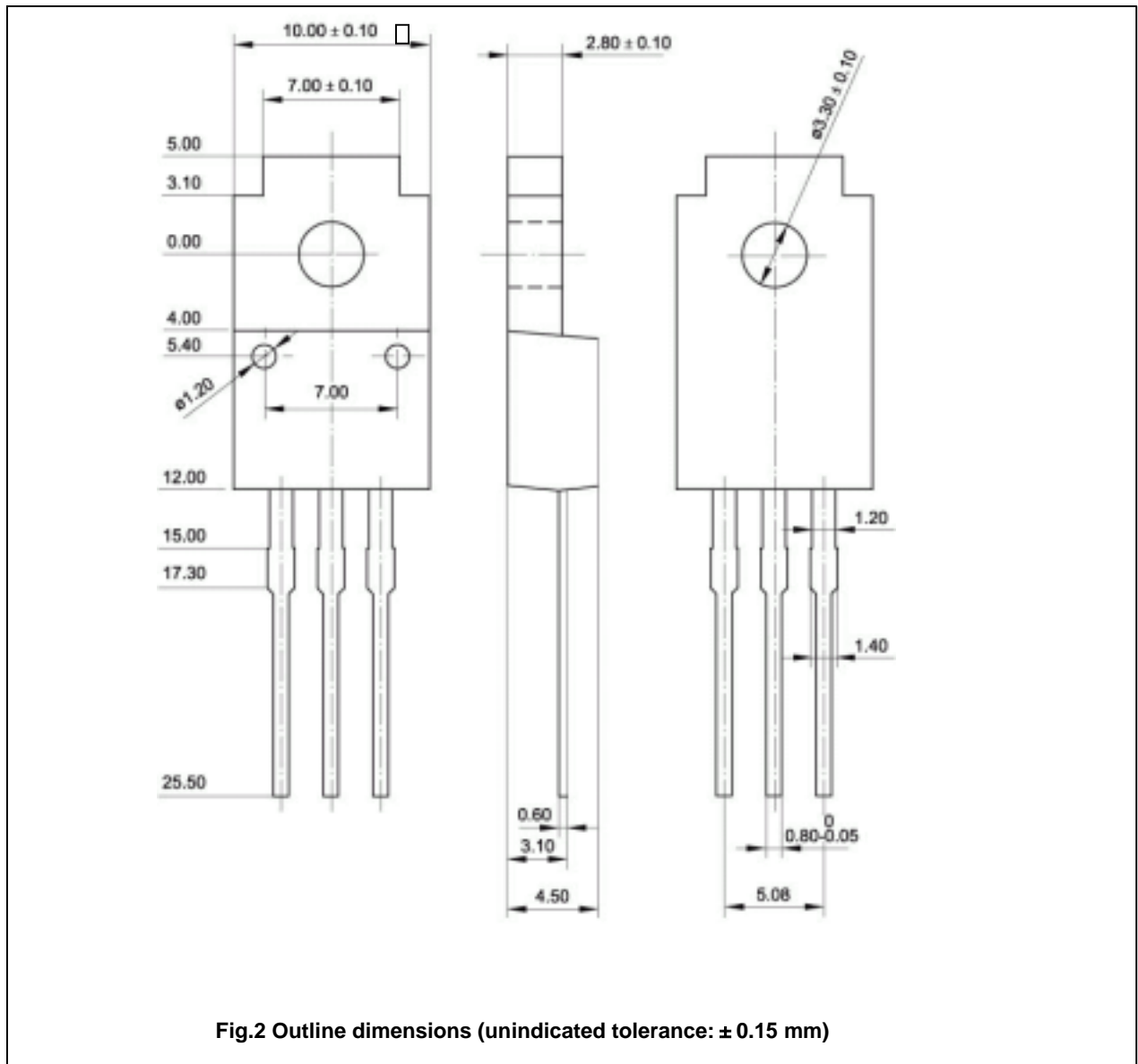


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)