

Silicon NPN Power Transistors

2SC3163

DESCRIPTION

- With TO-220C package
- High breakdown voltage
- High speed switching

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

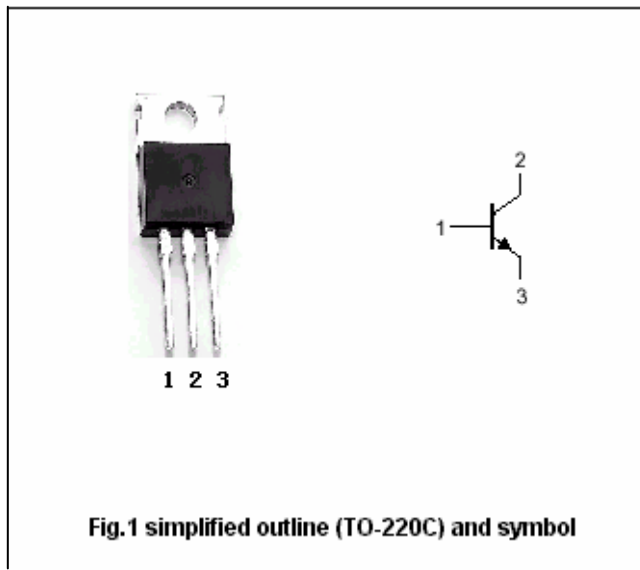


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	500	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	400	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		6	A
I <sub>B</sub>	Base current		2	A
P <sub>C</sub>	Collector dissipation	T <sub>C</sub> =25°C	50	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal resistance junction case	2.5	°C/W

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =100mA ; I <sub>B</sub> =0	400			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =3A; I <sub>B</sub> =0.3A			1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =3A; I <sub>B</sub> =0.3A			1.5	V
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =400V ; I <sub>B</sub> =0			100	μA
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =500V ; I <sub>E</sub> =0			100	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =7V; I <sub>C</sub> =0			100	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =3A ; V <sub>CE</sub> =2V	15			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =6A ; V <sub>CE</sub> =2V	8			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.6A ; V <sub>CE</sub> =10V		20		MHz

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PACKAGE OUTLINE

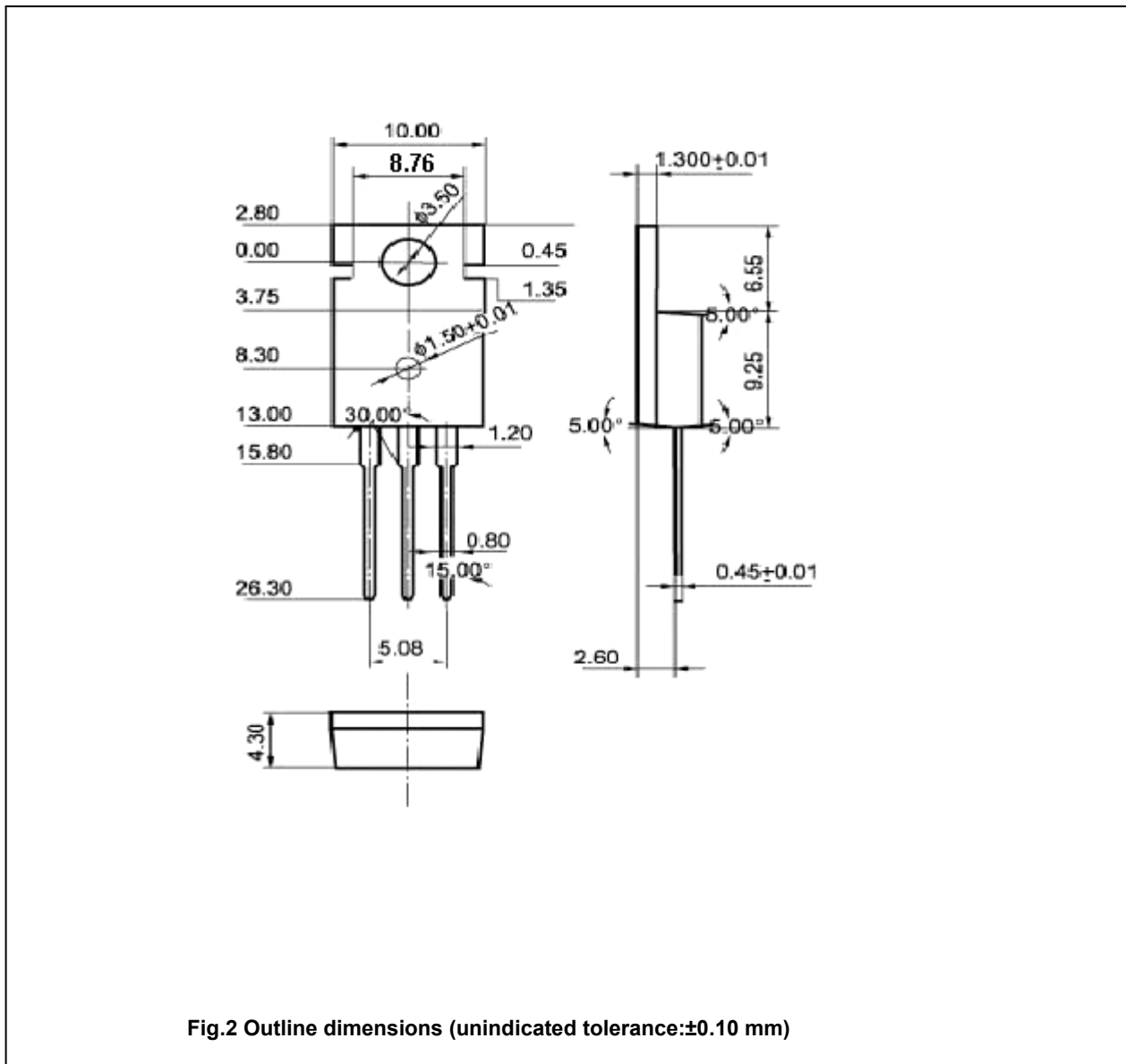


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10$  mm)