

**Silicon PNP Power Transistors**

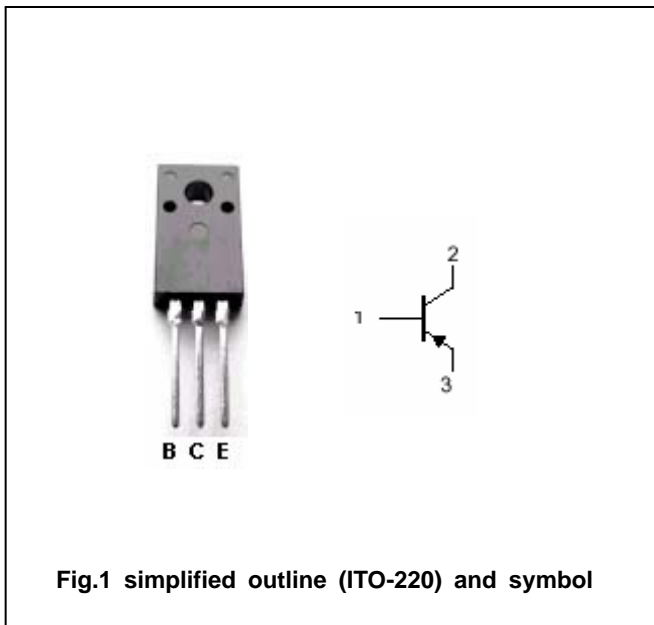
**2SA1878**

**DESCRIPTION**

- With ITO-220 package
- Switching power transistor
- Low collector saturation voltage

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	-80	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	-80	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-7	V
I <sub>C</sub>	Collector current		-5	A
I <sub>CM</sub>	Collector current-Peak		-10	A
I <sub>B</sub>	Base current		-1.5	A
I <sub>BM</sub>	Base current-Peak		-2.0	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25	25	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(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =-50mA ; I <sub>B</sub> =0	-80			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-2.5A; I <sub>B</sub> =-0.25A			-0.3	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-2.5A; I <sub>B</sub> =-0.25A			-1.2	V
I <sub>CBO</sub>	Collector cut-off current	At rated volatge			-0.1	mA
I <sub>CEO</sub>	Collector cut-off current	At rated volatge			-0.1	mA
I <sub>EBO</sub>	Emitter cut-off current	At rated volatge			-0.1	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =-2.5A ; V <sub>CE</sub> =-2V	70			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-10V		50		MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =-2.5A; I <sub>B1</sub> =-0.25A I <sub>B2</sub> =0.25A , R <sub>L</sub> =12 V <sub>BB2</sub> =4V			0.3	μs
t <sub>s</sub>	Storage time				1.5	μs
t <sub>f</sub>	Fall time				0.2	μs

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PACKAGE OUTLINE

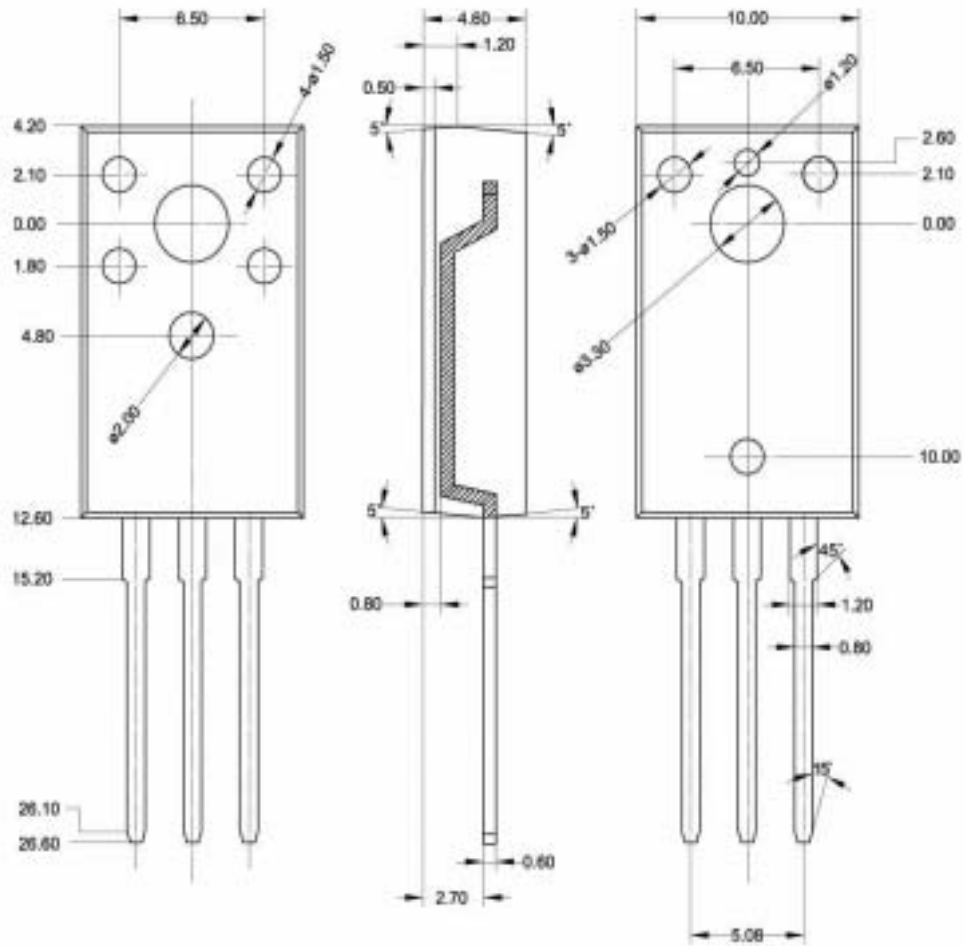


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.20$  mm)