

**Silicon NPN Power Transistors**

**2SC3686**

**DESCRIPTION**

- High breakdown voltage
- High reliability (adoption of HVP process).
- Fast speed
- Adoption of MBIT process.
- With TO-3PN package

**APPLICATIONS**

- Ultrahigh-definition color display horizontal deflection output.

**PINNING**

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

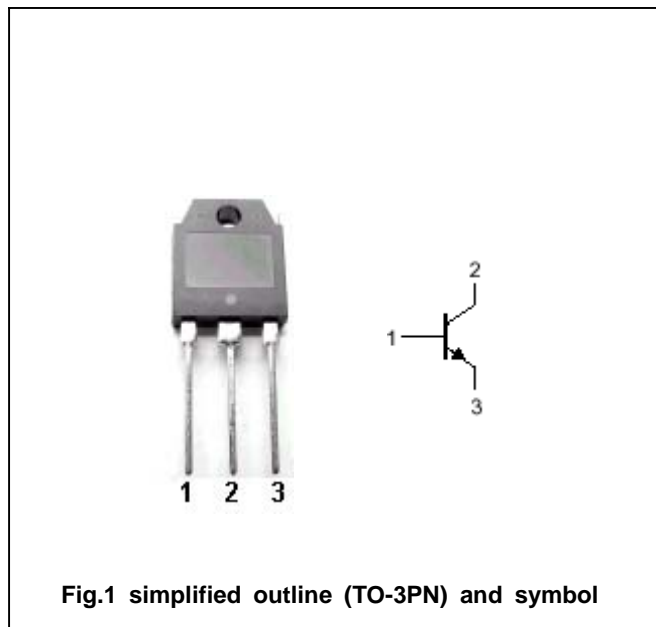


Fig.1 simplified outline (TO-3PN) and symbol

**Absolute maximum ratings(Ta= )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	1500	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	800	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current		7	A
I <sub>CP</sub>	Collector current-pulse		16	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	120	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>CE0(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =100mA; I <sub>B</sub> =0	800			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A I <sub>B</sub> =1.2A			5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =5A ;I <sub>B</sub> =1.2A			1.5	V
I <sub>CES</sub>	Collector cut-off current	V <sub>CB</sub> =1500V; I <sub>E</sub> =0			1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =4V; I <sub>C</sub> =0			1	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V	8			

## Switching times

t <sub>stg</sub>	Storage time	I <sub>C</sub> =4A; V <sub>CC</sub> =5V I <sub>B1</sub> =0.8A; I <sub>B2</sub> =-1.6A			3	μs
t <sub>f</sub>	Fall time			0.1	0.2	μs

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PACKAGE OUTLINE

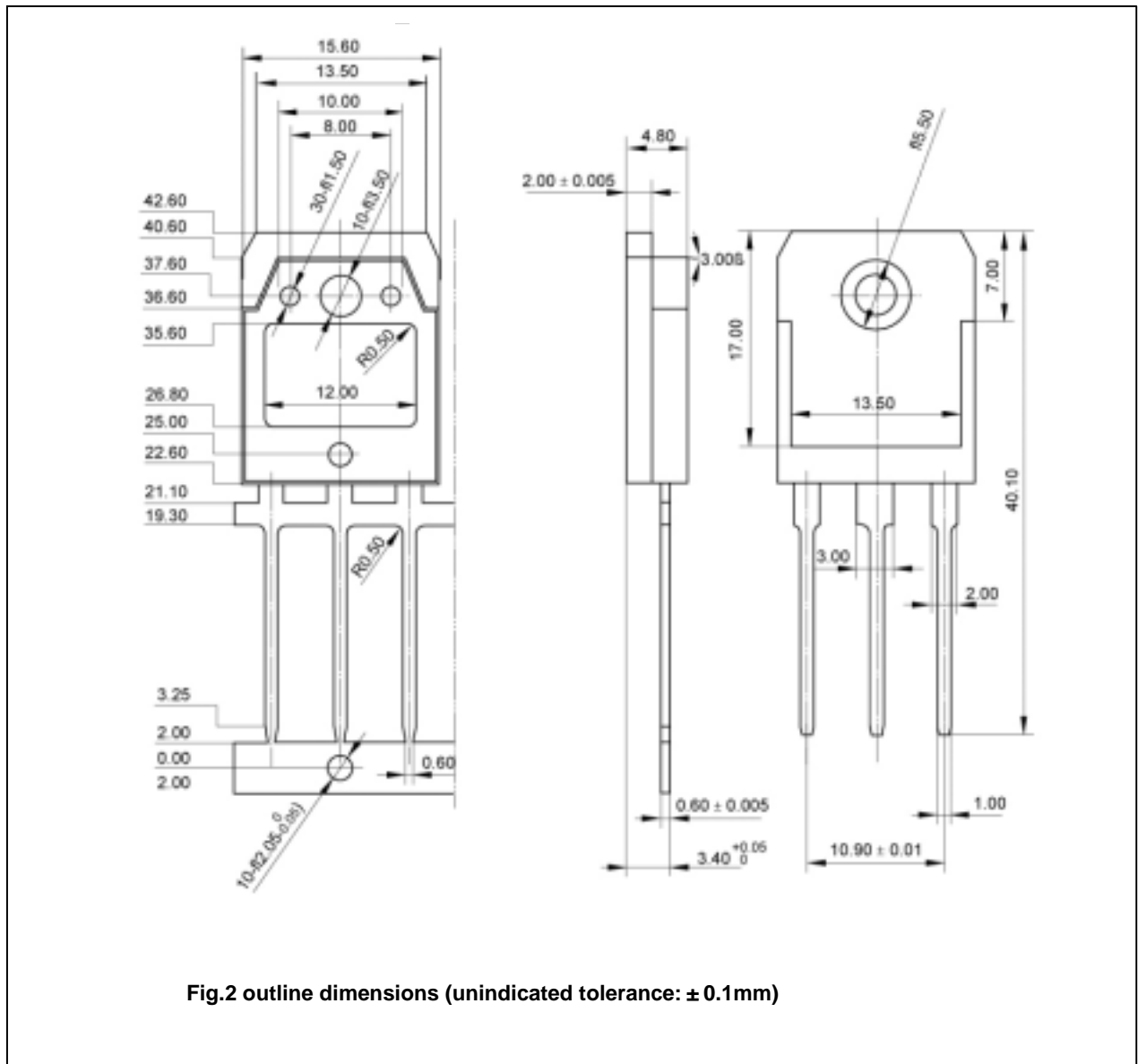


Fig.2 outline dimensions (unindicated tolerance:  $\pm 0.1\text{mm}$ )