

Silicon NPN Power Transistors

S2000AF

**DESCRIPTION**

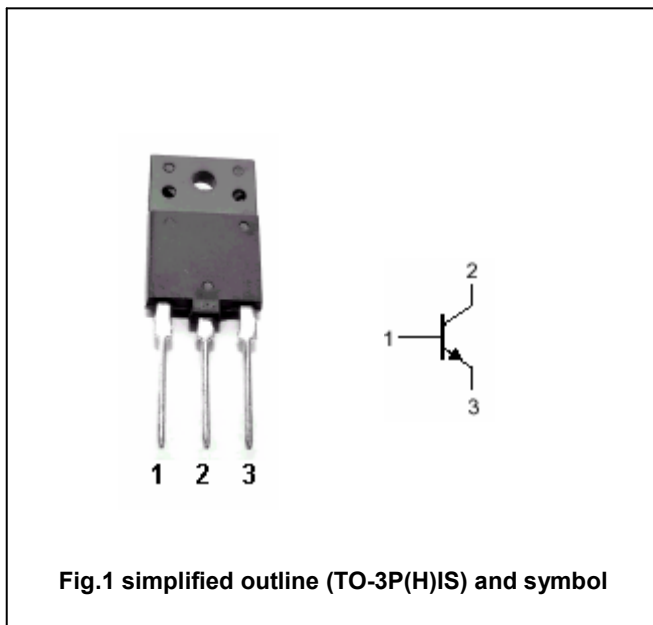
- With TO-3P(H)IS package
- High voltage
- Fast switching

**APPLICATIONS**

- Horizontal deflection for color TV

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



**ABSOLUTE MAXIMUM RATINGS (T<sub>C</sub>=25°C)**

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	700	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	10	V
I <sub>C</sub>	Collector current		8	A
I <sub>CM</sub>	Collector current-peak		15	A
P <sub>C</sub>	Collector power 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	VALUE	UNIT
R <sub>th j-c</sub>	Thermal resistance from junction to case	2.5	°C/W

## Silicon NPN Power Transistors

## S2000AF

## 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	700			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =10mA ; I <sub>C</sub> =0	10			V
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =4.5A ; I <sub>B</sub> =2.0A			1.0	V
V <sub>BE(sat)</sub>	Base-emitter saturation voltage	I <sub>C</sub> =4.5A ; I <sub>B</sub> =2.0A			1.3	V
I <sub>CES</sub>	Collector cut-off current	V <sub>CE</sub> =1500V; V <sub>BE</sub> =0 T <sub>C</sub> =125°C			1 2	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; 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			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.1A ; V <sub>CE</sub> =5V; f=5MHz		7		MHz

Switching times inductive load

t <sub>s</sub>	Storage time	I <sub>C</sub> =4.5A ; h <sub>FE</sub> =2.5; V <sub>CC</sub> =140V L <sub>C</sub> =0.9mH; L <sub>B</sub> =3μH		7		μs
t <sub>f</sub>	Fall time			0.55		μs

Silicon NPN Power Transistors

S2000AF

PACKAGE OUTLINE

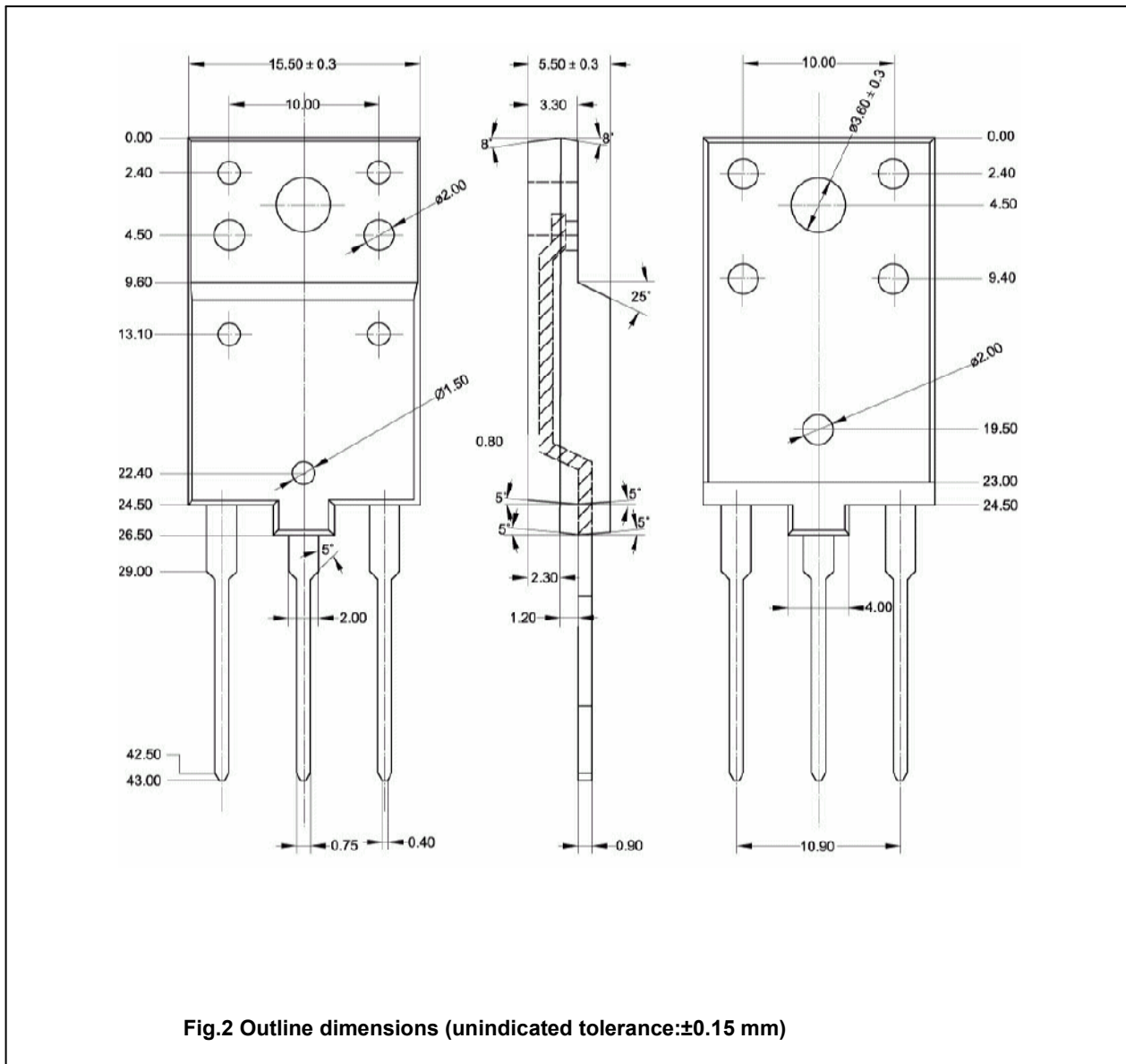


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)