

**Inchange Semiconductor**

**Product Specification**

**Silicon PNP Power Transistors**

**2N5883 2N5884**

**DESCRIPTION**

- With TO-3 package
- Complement to type 2N5885 2N5886
- High power dissipations

**APPLICATIONS**

- They are intended for use in power linear and switching applications

**PINNING**

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

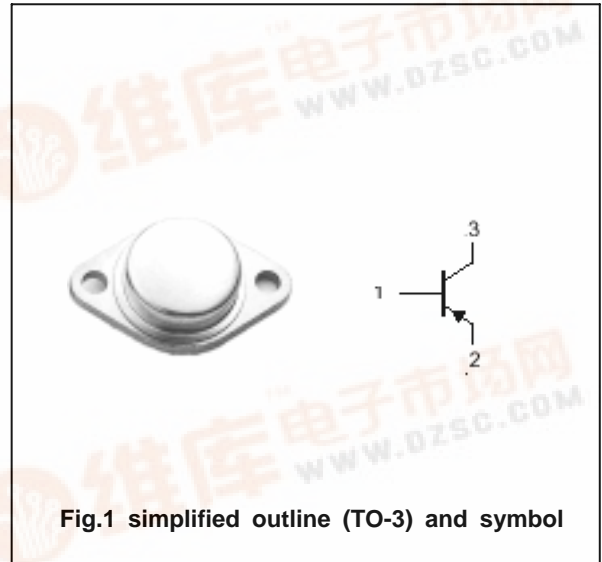


Fig.1 simplified outline (TO-3) and symbol

**Absolute maximum ratings(Ta= )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	2N5883	-60	V
		2N5884	-80	
V <sub>CEO</sub>	Collector-emitter voltage	2N5883	-60	V
		2N5884	-80	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-5	V
I <sub>C</sub>	Collector current		-25	A
I <sub>CM</sub>	Collector current-peak		-50	A
I <sub>B</sub>	Base current		-7.5	A
P <sub>D</sub>	Total Power Dissipation	T <sub>C</sub> =25	200	W
T <sub>j</sub>	Junction temperature		200	
T <sub>stg</sub>	Storage temperature		-65~200	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	VALUE	UNIT
R <sub>th j-c</sub>	Thermal resistance junction to case	0.875	/W

## Silicon PNP Power Transistors

## 2N5883 2N5884

## 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	2N5883	I <sub>C</sub> =-0.2A ; I <sub>B</sub> =0	-60		V
		2N5884		-80		
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-15A; I <sub>B</sub> =-1.5A			-1	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-25A ; I <sub>B</sub> =-6.25A			-4	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-25A ; I <sub>B</sub> =-6.25A			-2.5	V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =-10A ; V <sub>CE</sub> =-4V			-1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =ratedV <sub>CBO</sub> ; I <sub>B</sub> =0			-1	mA
I <sub>CEO</sub>	Collector cut-off current	2N5883			-2	mA
		2N5884				
I <sub>CEV</sub>	Collector cut-off current (V <sub>BE(off)</sub> =1.5V)	V <sub>CE</sub> =ratedV <sub>CEO</sub> ;			-1	mA
		V <sub>CE</sub> =ratedV <sub>CEO</sub> ; T <sub>C</sub> =150			-10	
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-1	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-3A ; V <sub>CE</sub> =-V	35			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-10A ; V <sub>CE</sub> =-4V	20		100	
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =-25A ; V <sub>CE</sub> =-4V	4			
f <sub>T</sub>	Transistion frequency	I <sub>C</sub> =-1A ; V <sub>CE</sub> =-10V;f=1MHz	4			MHz
C <sub>cb</sub>	Collector base capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =-10V;f=1MHz			500	pF

## Switching times

t <sub>r</sub>	Rise time	I <sub>C</sub> =-10A ; I <sub>B1</sub> =- I <sub>B2</sub> =-1A V <sub>CC</sub> =-30V			0.7	μs
t <sub>s</sub>	Storage time				1.0	μs
t <sub>f</sub>	Fall time				0.8	μs

PACKAGE OUTLINE

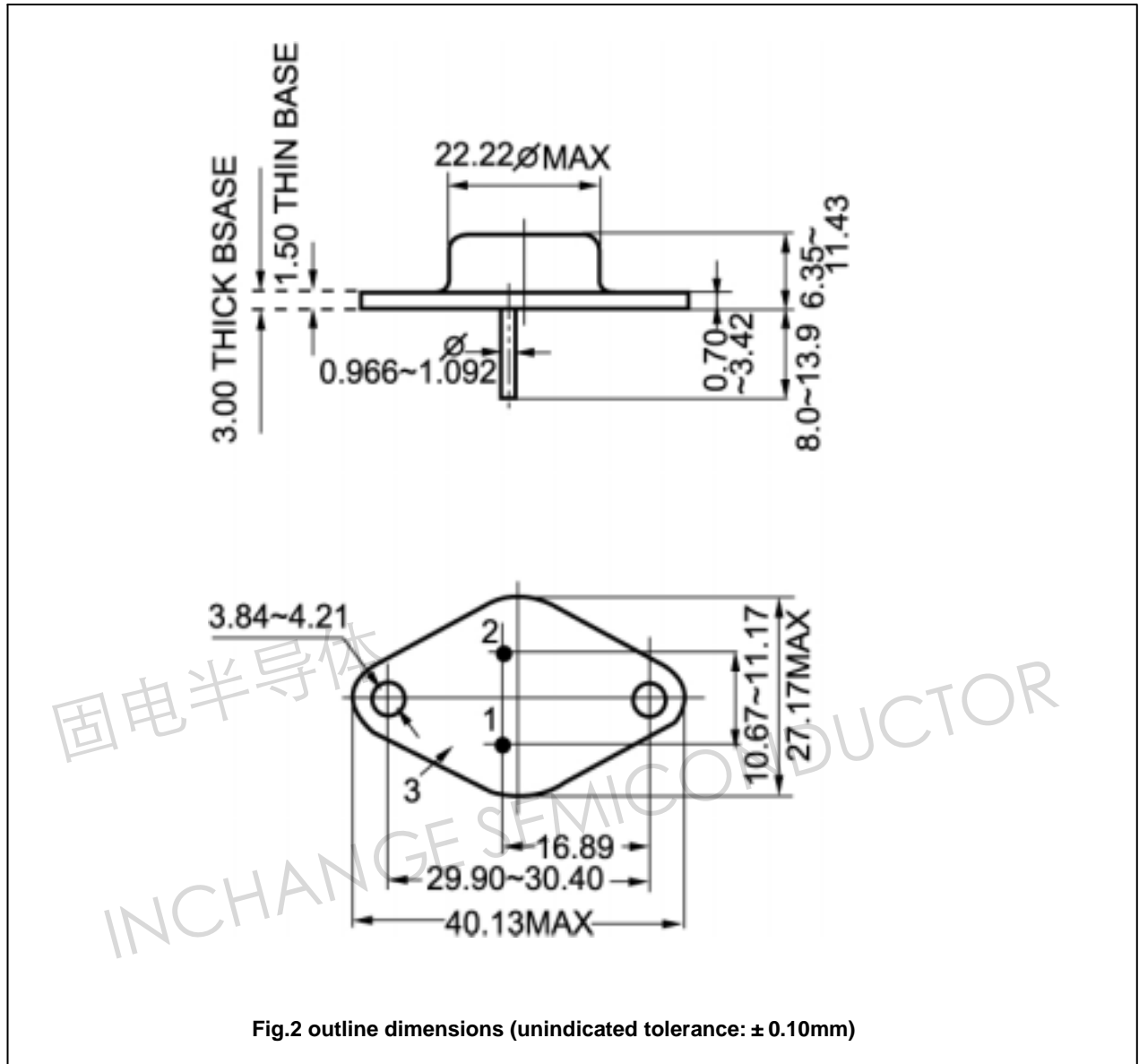


Fig.2 outline dimensions (unindicated tolerance:  $\pm 0.10$ mm)