

Silicon NPN Power Transistors

2N6249 2N6250 2N6251

DESCRIPTION

- With TO-3 package
- High voltage,high speed
- Low collector saturation voltage

APPLICATIONS

- High voltage inverters
- Switching regulators
- Line operated amplifier

PINNING

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

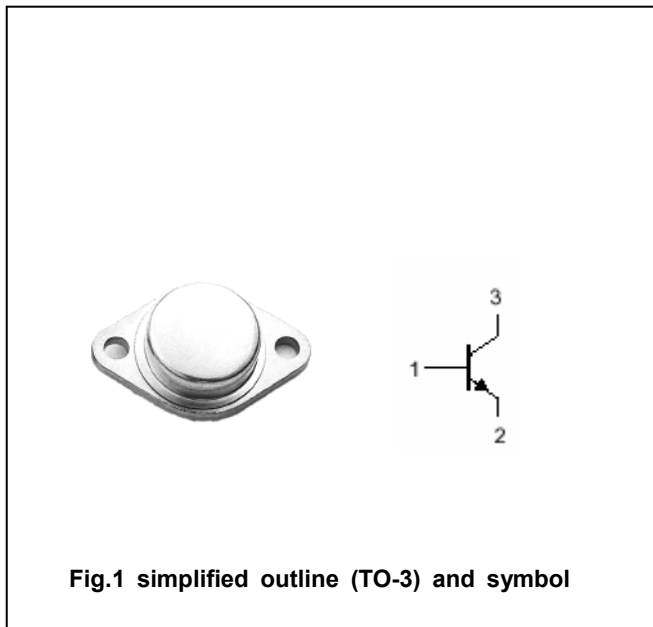


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	2N6249	300	V
		2N6250	375	
		2N6251	450	
V <sub>CEO</sub>	Collector-emitter voltage	2N6249	200	V
		2N6250	275	
		2N6251	350	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current		10	A
I <sub>CM</sub>	Collector current-peak		30	A
I <sub>B</sub>	Base current		10	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25°C	175	W
T <sub>j</sub>	Junction temperature		200	°C
T <sub>stg</sub>	Storage temperature		-65~200	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal resistance from junction to case	1.0	°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	2N6249	I <sub>C</sub> =200mA ; I <sub>B</sub> =0			V	
		2N6250					200
		2N6251					275
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	2N6249	I <sub>C</sub> =10A; I <sub>B</sub> =1.0A		1.5	V	
		2N6250					I <sub>C</sub> =10A; I <sub>B</sub> =1.25 A
		2N6251					I <sub>C</sub> =10A; I <sub>B</sub> =1.67 A
V <sub>BE(sat)</sub>	Base-emitter saturation voltage	2N6249	I <sub>C</sub> =10A; I <sub>B</sub> =1.0A		2.25	V	
		2N6250					I <sub>C</sub> =10A; I <sub>B</sub> =1.25 A
		2N6251					I <sub>C</sub> =10A; I <sub>B</sub> =1.67 A
I <sub>CEV</sub>	Collector cut-off current	V <sub>CE</sub> =RatedV <sub>CEV</sub> ; V <sub>BE</sub> =-1.5V T <sub>C</sub> =125 °C			5.0 10	mA	
I <sub>CEO</sub>	Collector cut-off current	2N6249	V <sub>CE</sub> =150V; I <sub>B</sub> =0		5.0	mA	
		2N6250					V <sub>CE</sub> =225V; I <sub>B</sub> =0
		2N6251					V <sub>CE</sub> =300V; I <sub>B</sub> =0
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =6V; I <sub>C</sub> =0			1.0	mA	
h <sub>FE</sub>	DC current gain	2N6249	I <sub>C</sub> =10A ; V <sub>CE</sub> =3V		50		
		2N6250					10
		2N6251					8
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =10V □ f=1MHz	2.5			MHz	
I <sub>s/b</sub>	Second breakdown collector current With base forward biased	V <sub>CE</sub> =30V, t=1.0s, Nonrepetitive	5.8			A	

## Switching times

t <sub>r</sub>	Rise time		For 2N6249 I <sub>C</sub> =10A; I <sub>B1</sub> =-I <sub>B2</sub> =1.0A; V <sub>CC</sub> =200V			2.0	μs
t <sub>s</sub>	Storage time		For 2N6250 I <sub>C</sub> =10A; I <sub>B1</sub> =-I <sub>B2</sub> =1.25A; V <sub>CC</sub> =200V			3.5	μs
t <sub>f</sub>	Fall time		For 2N6251 I <sub>C</sub> =10A; I <sub>B1</sub> =-I <sub>B2</sub> =1.67A; V <sub>CC</sub> =200V			1.0	μs

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PACKAGE OUTLINE

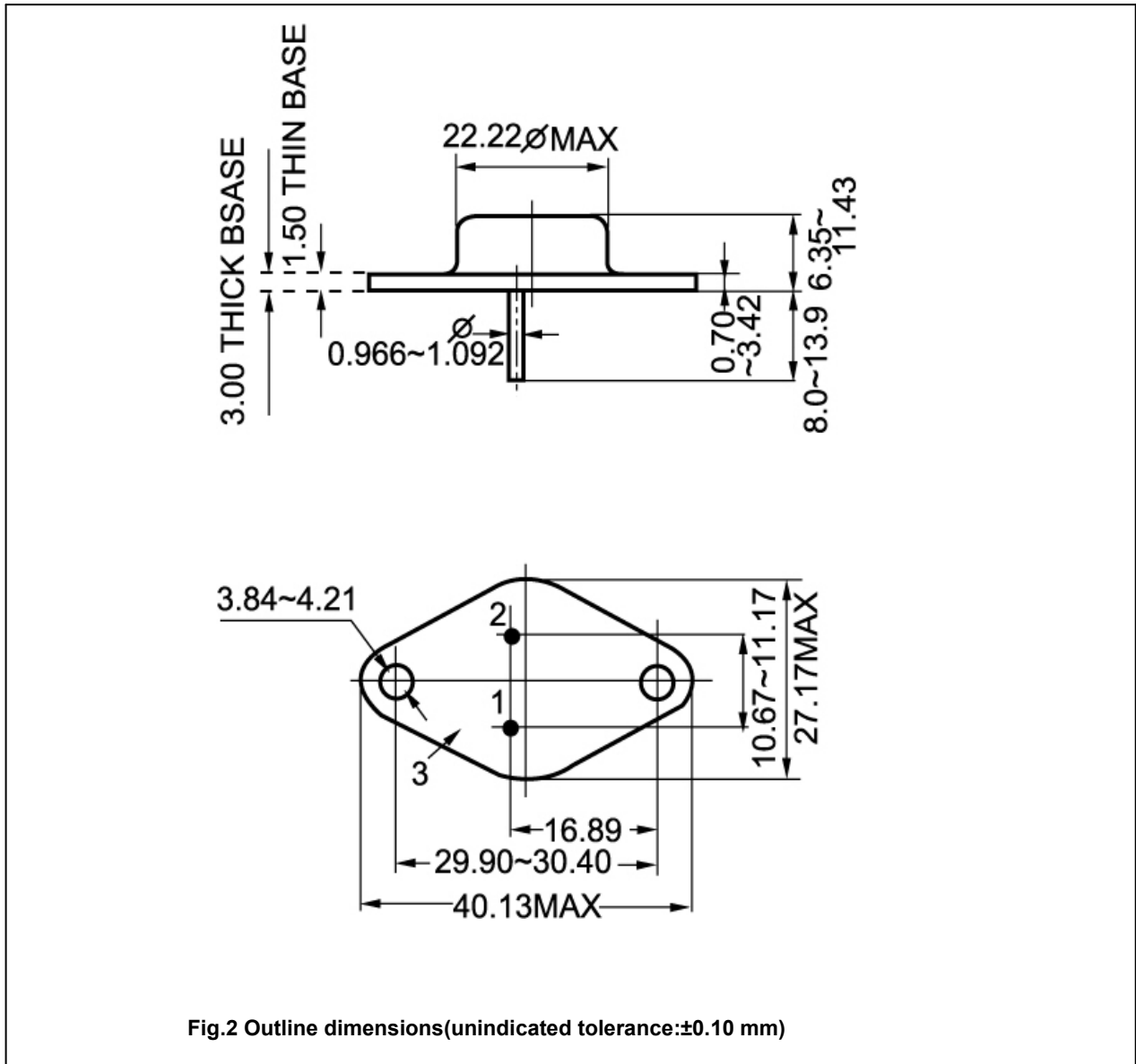


Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)