

## Silicon PNP Power Transistors

2N6031

## DESCRIPTION

- With TO-3 package
- Complement to type 2N5631
- High collector sustaining voltage
- High DC current gain
- Low collector saturation voltage

## APPLICATIONS

- For high power audio amplifier and high voltage switching regulator circuits applications

## PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

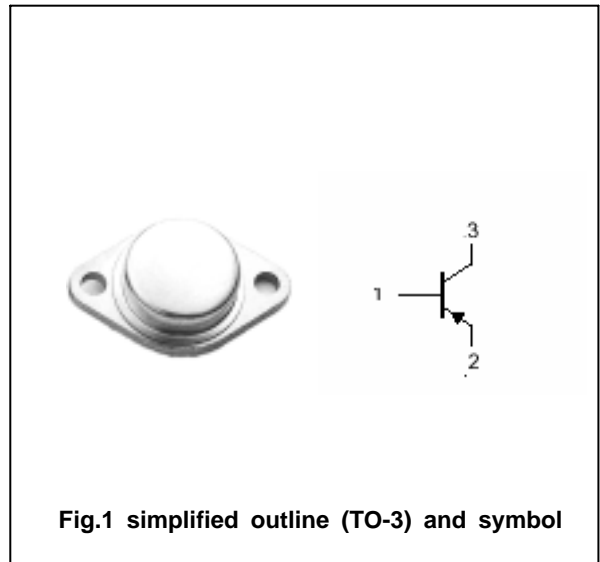


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings( $T_a =$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	-140	V
$V_{CEO}$	Collector-emitter voltage	Open base	-140	V
$V_{EBO}$	Emitter-base voltage	Open collector	-7	V
$I_C$	Collector current		-16	A
$I_{CM}$	Collector current-peak		-20	A
$I_B$	Base current		-5.0	A
$P_D$	Total Power Dissipation	$T_C=25$	200	W
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-65~200	

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	0.875	/W

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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> =-0.2A ; I <sub>B</sub> =0	-140			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-10A; I <sub>B</sub> =-1A			-1.0	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-16A ; I <sub>B</sub> =-4A			-2.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-10A; I <sub>B</sub> =-1A			-1.8	V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =-8A ; V <sub>CE</sub> =-2V			-1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =ratedV <sub>CB</sub> ; I <sub>E</sub> =0			-2.0	mA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =-70V; I <sub>B</sub> =0			-2.0	mA
I <sub>CEx</sub>	Collector cut-off current (V <sub>BE(off)</sub> =1.5V)	V <sub>CE</sub> =ratedV <sub>CB</sub>			-2.0	mA
		V <sub>CE</sub> =ratedV <sub>CB</sub> ; T <sub>C</sub> =150			-7.0	
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-7V; I <sub>C</sub> =0			-5.0	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-8A ; V <sub>CE</sub> =-2V	15		60	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-16A ; V <sub>CE</sub> =-2V	4			
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =-10V ; f=0.1MHz			1000	pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-1A ; V <sub>CE</sub> =-20V ; f=0.5MHz	1.0			MHz

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PACKAGE OUTLINE

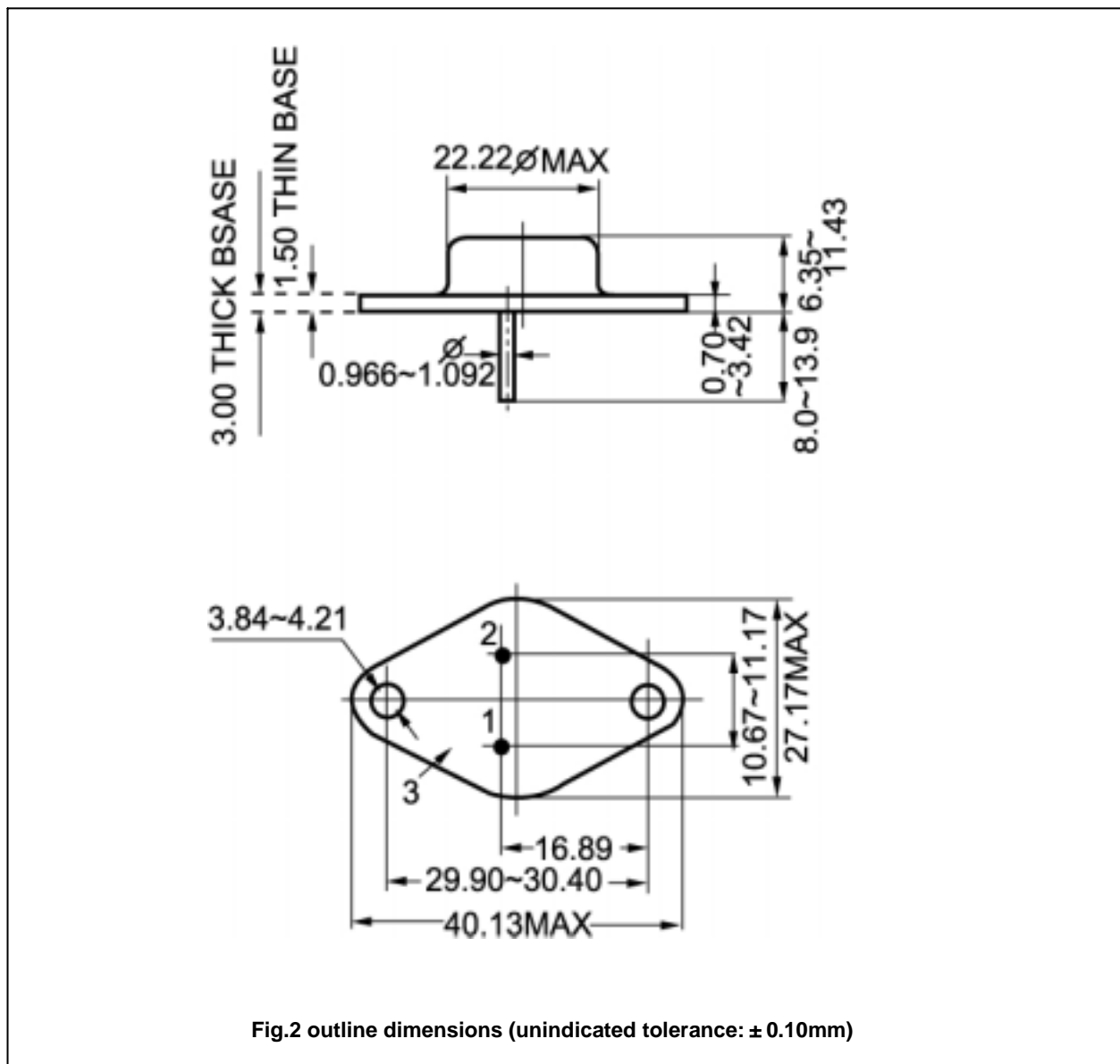


Fig.2 outline dimensions (unindicated tolerance:  $\pm 0.10$ mm)