

## Silicon NPN Power Transistors

2N5631

## DESCRIPTION

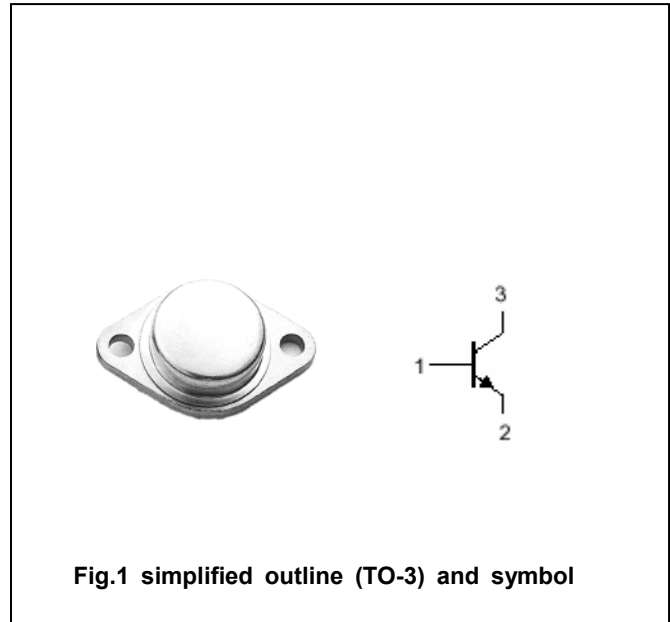
- With TO-3 package
- Complement to type 2N6031
- High collector-emitter sustaining voltage
- High DC current gain@ $I_C=8A$
- Low collector saturation voltage

## APPLICATIONS

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

## PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

Absolute maximum ratings( $T_a=\square$ )

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	$T_C=25\square$	200	W
$T_j$	Junction temperature		200	$\square$
$T_{stg}$	Storage temperature		-65~200	$\square$

## THERMAL CHARACTERISTICS

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

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## CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEQ(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>CB0</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>CE</sub> =ratedV <sub>CB</sub> ; V <sub>BE(off)</sub> =1.5V T <sub>C</sub> =150°C			2.0 7.0	mA
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			500	pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =20V ; f=0.5MHz	1.0			MHz

PACKAGE OUTLINE

