

## Silicon NPN Power Transistors 2N5614 2N5616 2N5618 2N5620

### DESCRIPTION

- With TO-3 package
- Excellent safe operating area
- Low collector saturation voltage

### APPLICATIONS

- For general-purpose amplifier ;  
and switching applications

### PINNING(see Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

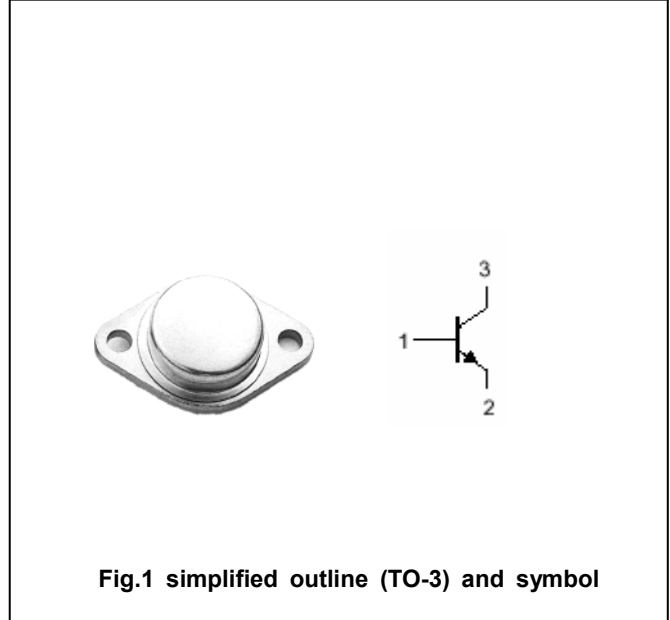


Fig.1 simplified outline (TO-3) and symbol

### Absolute maximum ratings( $T_a = \square$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	2N5614	80	V
		2N5616/5618	100	
		2N5620	120	
$V_{CEO}$	Collector-emitter voltage	2N5614	60	V
		2N5616/5618	80	
		2N5620	100	
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		5	A
$P_D$	Total power dissipation	$T_C = 25 \square$	50	W
$T_j$	Junction temperature		150	$\square$
$T_{stg}$	Storage temperature		-65~150	$\square$

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th j-c}$	Thermal resistance junction to case	1.5	$\square/W$

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	2N5614	I <sub>C</sub> =50mA ; I <sub>B</sub> =0	60			V
		2N5616/5618		80			
		2N5620		100			
V <sub>CEsat</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =1A; I <sub>B</sub> =0.1A			0.5	V
V <sub>BE</sub>	Base-emitter on voltage		I <sub>C</sub> =2.5A ; V <sub>CE</sub> =5V			1.5	V
I <sub>CBO</sub>	Collector cut-off current		V <sub>CB</sub> =Rated V <sub>CBO</sub> ; I <sub>E</sub> =0			0.1	mA
I <sub>CEO</sub>	Collector cut-off current		V <sub>CE</sub> = Rated V <sub>CEO</sub> , I <sub>B</sub> =0			1.0	mA
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =5V; I <sub>C</sub> =0			0.1	mA
h <sub>FE</sub>	DC current gain	2N5614/5618	I <sub>C</sub> =2.5A ; V <sub>CE</sub> =5V	70		200	
		2N5616/5620		30		90	
f <sub>T</sub>	Transition frequency	2N5614/5618	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =10V	70			MHz
		2N5616/5620		60			

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PACKAGE OUTLINE

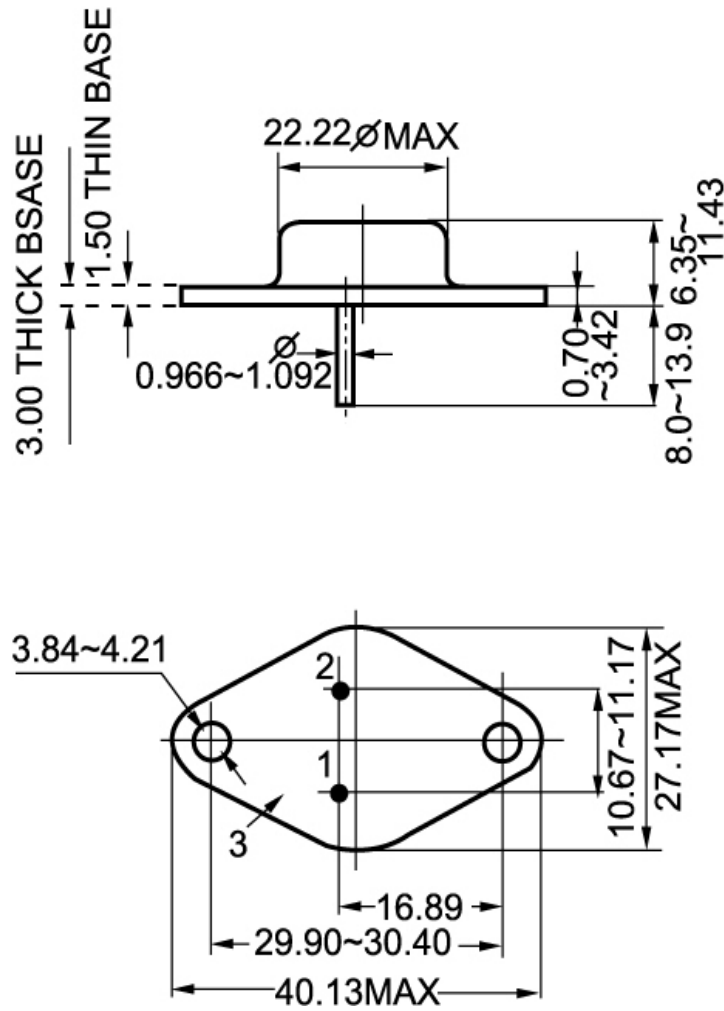


Fig.2 outline dimensions