

## Silicon NPN Power Transistors 2N5490 2N5492 2N5494 2N5496

### DESCRIPTION

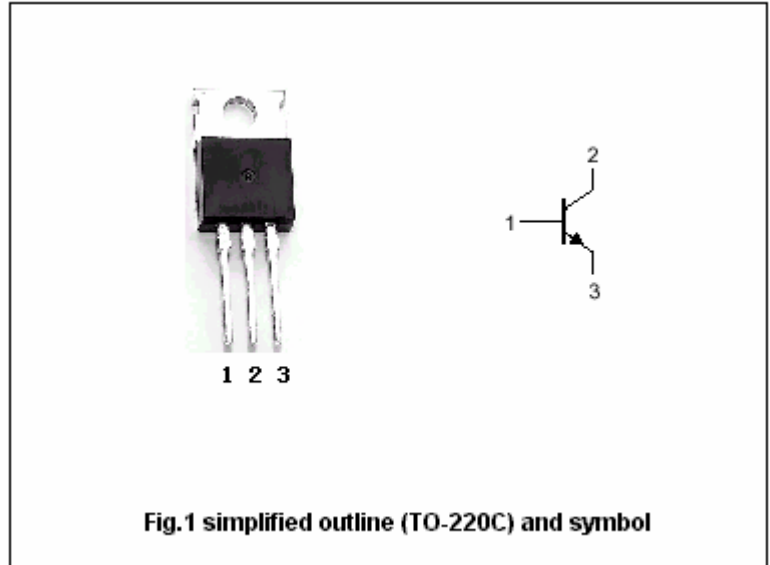
- With TO-220 package
- High power dissipation

### APPLICATIONS

- For used in medium power and amplifier applications

### PINNING

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



### Absolute maximum ratings( $T_a=25^\circ$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	2N5490/5494	60	V
		2N5492	75	
		2N5496	90	
$V_{CEO}$	Collector-emitter voltage	2N5490/5494	40	V
		2N5492	55	
		2N5496	70	
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		7	A
$I_B$	Base current		3	A
$P_D$	Total power dissipation	$T_C=25^\circ$	50	W
$T_j$	Junction temperature		150	$^\circ$
$T_{stg}$	Storage temperature		-65~150	$^\circ$

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance from junction to case	2.5	$^\circ/W$

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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	2N5490/5494	I <sub>C</sub> =0.1A ; I <sub>B</sub> =0	40			V
		2N5492		55			
		2N5496		70			
V <sub>CEsat</sub>	Collector-emitter saturation voltage	2N5490	I <sub>C</sub> =2.0A ; I <sub>B</sub> =0.2A			1.0	V
		2N5492	I <sub>C</sub> =2.5A ; I <sub>B</sub> =0.25A				
		2N5494	I <sub>C</sub> =3.0A ; I <sub>B</sub> =0.3A				
		2N5496	I <sub>C</sub> =3.5A ; I <sub>B</sub> =0.35A				
V <sub>BE</sub>	Base-emitter on voltage	2N5490	I <sub>C</sub> =2.0A ; V <sub>CE</sub> =4V			1.1	V
		2N5492	I <sub>C</sub> =2.5A ; V <sub>CE</sub> =4V			1.3	
		2N5494	I <sub>C</sub> =3.0A ; V <sub>CE</sub> =4V			1.5	
		2N5496	I <sub>C</sub> =3.5A ; V <sub>CE</sub> =4V			1.7	
I <sub>CEV</sub>	Collector cut-off current	2N5492	V <sub>CE</sub> =70V ; V <sub>BE</sub> =1.5V			1.0	mA
		2N5490/5494	V <sub>CE</sub> =55V ; V <sub>BE</sub> =1.5V				
		2N5496	V <sub>CE</sub> =85V ; V <sub>BE</sub> =1.5V				
I <sub>CER</sub>	Collector cut-off current		V <sub>CE</sub> =Rated V <sub>CEO</sub> ; R <sub>BE</sub> =100Ω			0.5	mA
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =5V ; I <sub>C</sub> =0			1.0	mA
h <sub>FE</sub>	DC current gain	2N5490	I <sub>C</sub> =2.0A ; V <sub>CE</sub> =4V	20		100	
		2N5492	I <sub>C</sub> =2.5A ; V <sub>CE</sub> =4V				
		2N5494	I <sub>C</sub> =3.0A ; V <sub>CE</sub> =4V				
		2N5496	I <sub>C</sub> =3.5A ; V <sub>CE</sub> =4V				
f <sub>T</sub>	Transition frequency		I <sub>C</sub> =0.5A ; V <sub>CE</sub> =4V	0.8			MHz

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PACKAGE OUTLINE

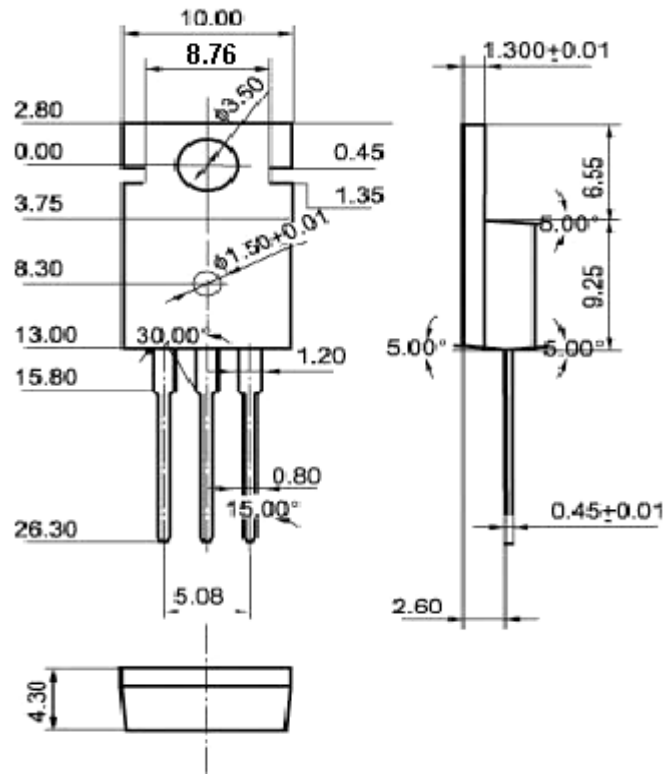


Fig.2 Outline dimensions(unindicated tolerance:  $\pm 0.10$  mm)