

## Silicon NPN Power Transistors

MJ21194

## DESCRIPTION

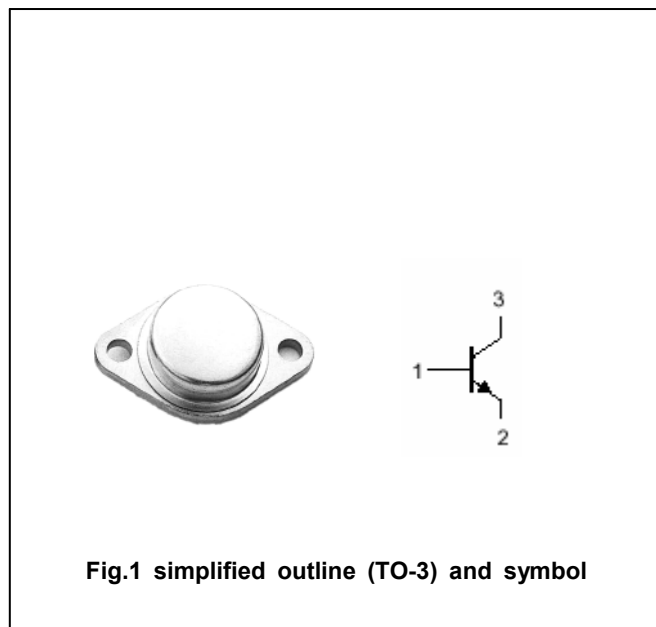
- With TO-3 package
- Complement to type MJ21193
- Excellent gain linearity

## APPLICATIONS

- Designed for high power audio output, disk head positioners and linear applications

## PINNING(see Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

ABSOLUTE MAXIMUM RATINGS( $T_C=25^\circ\text{C}$ )

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	400	V
$V_{CEO}$	Collector-emitter voltage	Open base	250	V
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		16	A
$I_{CM}$	Collector current-peak		30	A
$I_B$	Base current		5	A
$P_D$	Total power dissipation	$T_C=25^\circ\text{C}$	250	W
$T_j$	Junction temperature		-65~200	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-65~200	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th-j-c}$	Thermal resistance from junction to case	0.7	$^\circ\text{C}/\text{W}$

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =100mA ; I <sub>B</sub> =0	250			V
V <sub>CE(sat)-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =8A ; I <sub>B</sub> =0.8A			1.4	V
V <sub>CE(sat)-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =16A ; I <sub>B</sub> =3.2A			4.0	V
V <sub>BE(ON)</sub>	Base-emitter on voltage	I <sub>C</sub> =8A ; V <sub>CE</sub> =5V			2.2	V
I <sub>CEX</sub>	Collector cut-off current	V <sub>CE</sub> =250V ; V <sub>BE(off)</sub> =1.5V			100	μA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =200V ; I <sub>B</sub> =0			100	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V ; I <sub>C</sub> =0			100	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =8A ; V <sub>CE</sub> =5V	25		75	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =16A ; V <sub>CE</sub> =5V	8			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =10V, f=1MHz	4			MHz
C <sub>OB</sub>	Collector output capacitance	f=1MHz ; V <sub>CB</sub> =10V, I <sub>E</sub> =0			500	pF
I <sub>s/b</sub>	Second breakdown current with base forward biased	V <sub>CE</sub> =50V ; t=1s(non-repetitive) V <sub>CE</sub> =80V ; t=1s(non-repetitive)	5.0 2.5			A

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PACKAGE OUTLINE

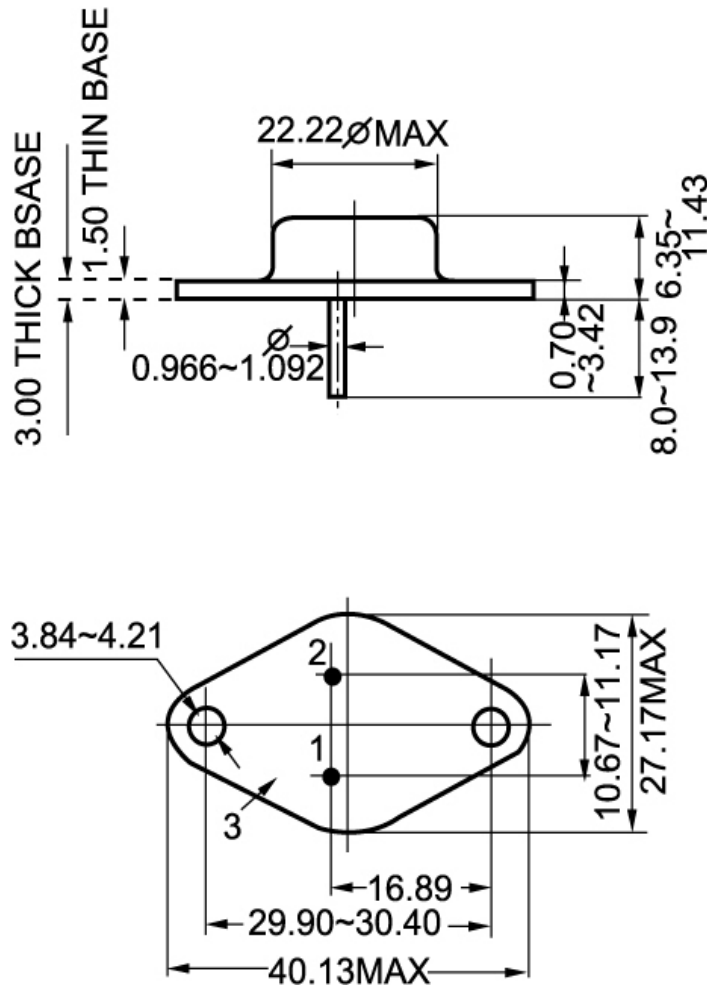


Fig.2 Outline dimensions (unindicated tolerance:±0.50 mm)