

## Silicon PNP Power Transistors

MJ15004

**DESCRIPTION**

- With TO-3 package
- Complement to type MJ15003
- Excellent safe operating area

**APPLICATIONS**

- For high power audio,disk head positioners and other linear applications

**PINNING(see Fig.2)**

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

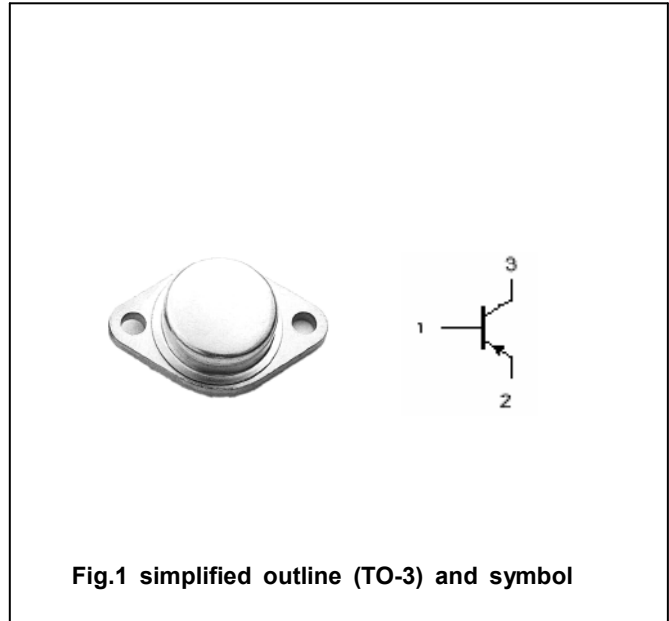


Fig.1 simplified outline (TO-3) and symbol

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

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	-5	V
$I_C$	Collector current		-20	A
$I_B$	Base current		-5	A
$I_E$	Emitter current		25	A
$P_D$	Total power dissipation	$T_C=25^\circ\text{C}$	250	W
$T_j$	Junction temperature		200	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-65~200	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance 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>CE0(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =-0.2A ; I <sub>B</sub> =0	-140			V
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-5A; I <sub>B</sub> =-0.5A			-1.0	V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =-5A ; V <sub>CE</sub> =-2V			-2.0	V
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =-140V; I <sub>B</sub> =0			-0.25	mA
I <sub>CEX</sub>	Collector cut-off current	V <sub>CE</sub> =-140V; V <sub>BE(off)</sub> =-1.5V T <sub>C</sub> =150°C			-0.1 -2.0	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	I <sub>C</sub> =-5A ; V <sub>CE</sub> =-2V	25		150	
I <sub>S/b</sub>	Second breakdown collector current With base forward biased	V <sub>CE</sub> =-50Vdc,t=1 s, Nonrepetitive	-5			A
		V <sub>CE</sub> =-100Vdc,t=1 s, Nonrepetitive	-1			
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =-10V;f=1.0MHz			1000	pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-10V;f=0.5MHz	2			MHz

PACKAGE OUTLINE

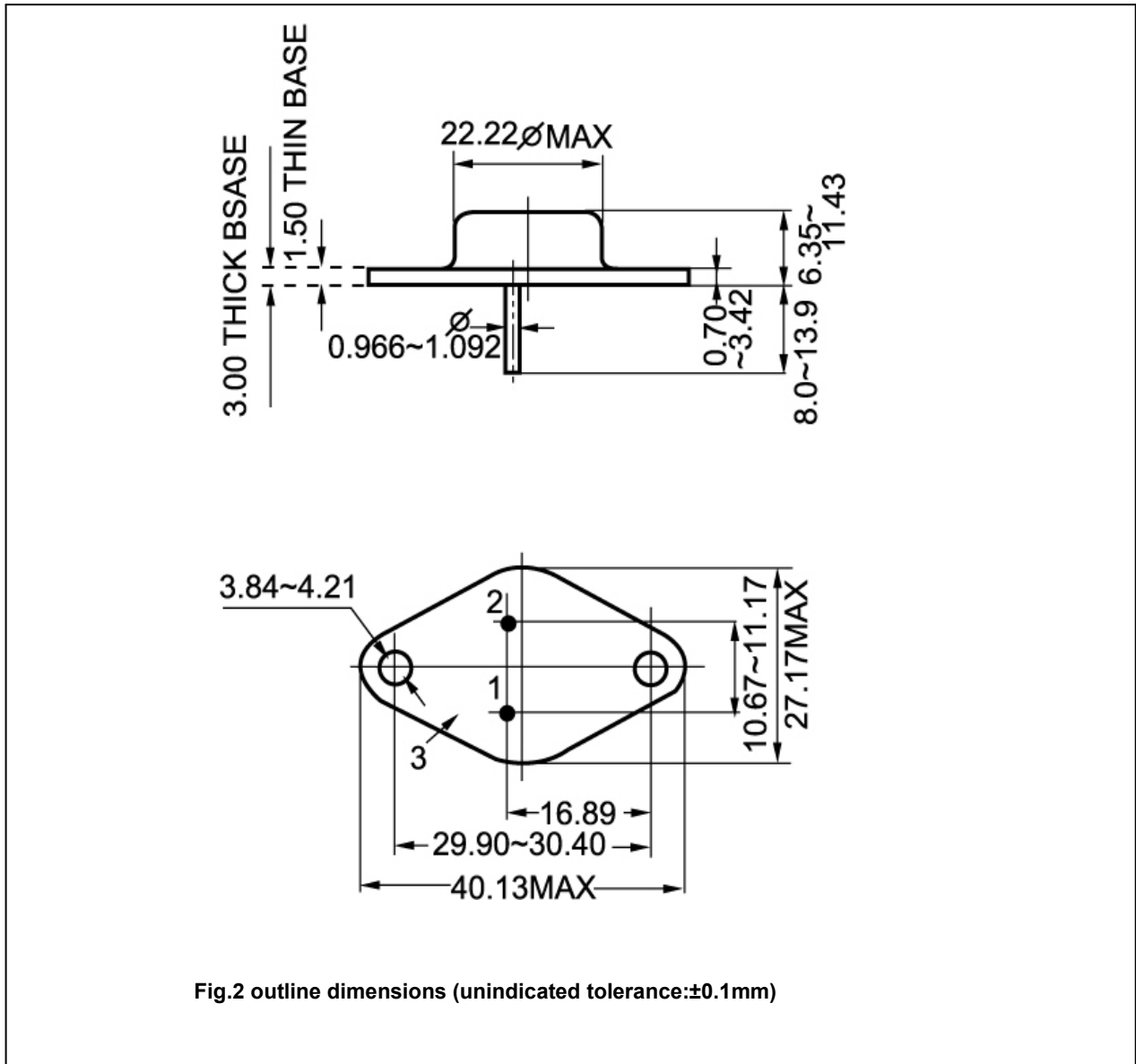


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)