

Silicon NPN Power Transistors

MJ15003

DESCRIPTION

- With TO-3 package
- Complement to type MJ15004
- 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

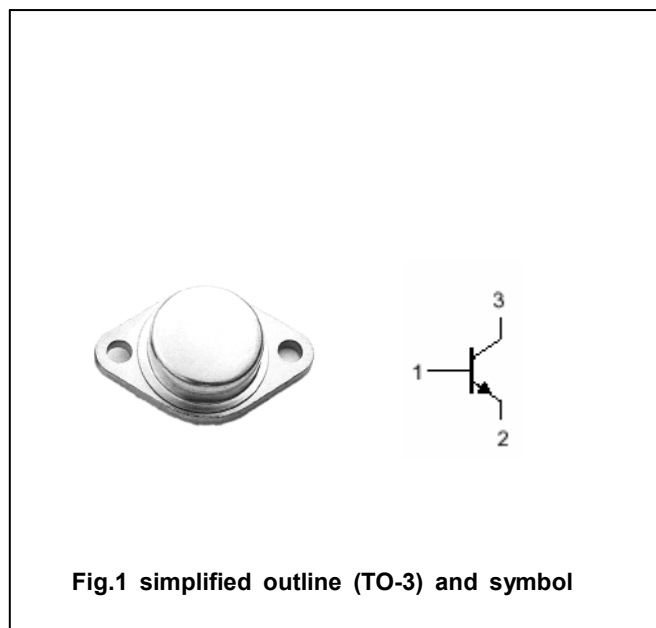


Fig.1 simplified outline (TO-3) and symbol

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_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =0.2A ; I _B =0	140			V
V _{CE(sat)}	Collector-emitter saturation voltage	I _C =5A; I _B =0.5A			1.0	V
V _{BE}	Base-emitter on voltage	I _C =5A ; V _{CE} =2V			2.0	V
I _{CEO}	Collector cut-off current	V _{CE} =140V; I _B =0			0.25	mA
I _{CEX}	Collector cut-off current	V _{CE} =140V; V _{BE(off)} =1.5V T _C =150°C			0.1 2.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			0.1	mA
h _{FE}	DC current gain	I _C =5A ; V _{CE} =2V	25		150	
I _{s/b}	Second breakdown collector current With base forward biased	V _{CE} =50Vdc, t=1 s, Nonrepetitive	5			A
		V _{CE} =100Vdc, t=1 s, Nonrepetitive	1			
C _{OB}	Output capacitance	I _E =0 ; V _{CB} =10V; f=1.0MHz			1000	pF
f _T	Transition frequency	I _C =0.5A ; V _{CE} =10V; f=0.5MHz	2			MHz

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PACKAGE OUTLINE

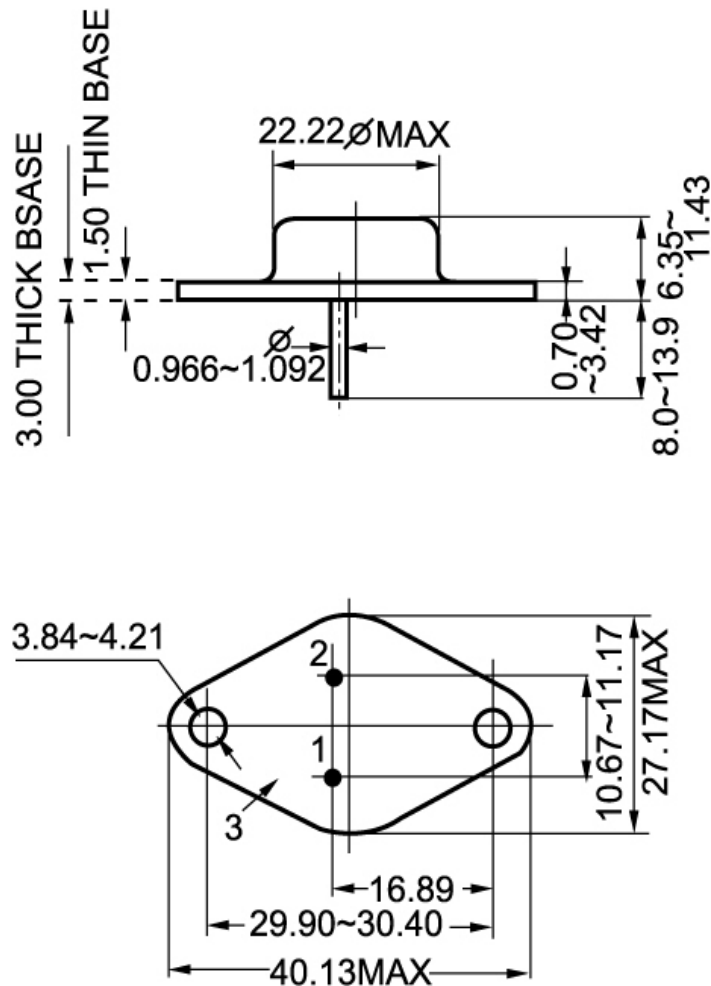


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)