

**Silicon NPN Power Transistors**

**MJ16018**

**DESCRIPTION**

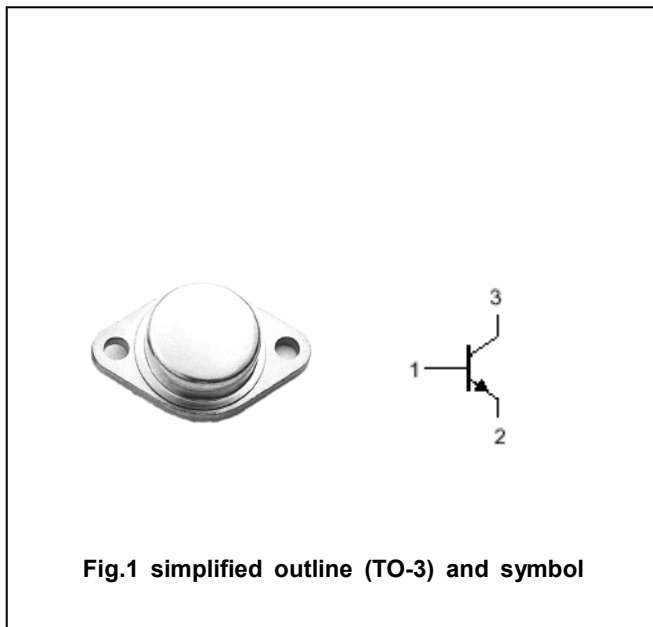
- With TO-3 package
- High voltage ,high speed

**APPLICATIONS**

- Switching Regulators
- Inverters
- Solenoids
- Relay Drivers
- Motor Controls
- Deflection Circuits

**PINNING(see Fig.2)**

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector



**ABSOLUTE MAXIMUM RATINGS(T<sub>c</sub>=25℃)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	1500	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	800	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current (DC)		10	A
I <sub>CM</sub>	Collector current-Peak		15	A
I <sub>B</sub>	Base current		8	A
I <sub>BM</sub>	Base current-Peak		12	A
P <sub>D</sub>	Total power dissipation	T <sub>C</sub> =25℃ T <sub>C</sub> =100℃	175 100	W
T <sub>j</sub>	Junction temperature		150	℃
T <sub>stg</sub>	Storage temperature		-55~150	℃

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	VALUE	UNIT
R <sub>th j-C</sub>	Thermal resistance junction to case	1.0	℃/W

## Silicon NPN Power Transistors

## MJ16018

## 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	I <sub>C</sub> =50mA; I <sub>B</sub> =0	800			V
V <sub>CE(sat)-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A ; I <sub>B</sub> =2A T <sub>C</sub> =110 °C			1.0 1.5	V
V <sub>CE(sat)-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =10A ; I <sub>B</sub> =5A			5.0	V
V <sub>BE(sat)</sub>	Base-emitter saturation voltage	I <sub>C</sub> =5A ; I <sub>B</sub> =2A T <sub>C</sub> =110 °C			1.5 1.5	V
I <sub>CEV</sub>	Collector cut-off current	V <sub>CEV</sub> =1500V, V <sub>BE(off)</sub> =1.5Vdc T <sub>C</sub> =100 °C			0.25 1.50	mA
I <sub>CER</sub>	Collector cut-off current	V <sub>CE</sub> =1500V; R <sub>BE</sub> =50Ω T <sub>C</sub> =100 °C			2.5	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =6V; I <sub>C</sub> =0			0.1	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =5A ; V <sub>CE</sub> =5V	4			
C <sub>OB</sub>	Collector outoput capacitance	f=1kHz ; V <sub>CB</sub> =10V			450	pF

Switching times resistive load

t <sub>d</sub>	Delay time	I <sub>C</sub> =5A; I <sub>B1</sub> = I <sub>B2</sub> =2.0A V <sub>CC</sub> =250V ,R <sub>B2</sub> =3Ω PW=25μs Duty Cycle≤2%		0.085	0.2	μs
t <sub>r</sub>	Rise time			0.90	2.0	μs
t <sub>s</sub>	Storage time			4.5	9.0	μs
t <sub>f</sub>	Fall time			0.2	0.4	μs

Silicon NPN Power Transistors

MJ16018

PACKAGE OUTLINE

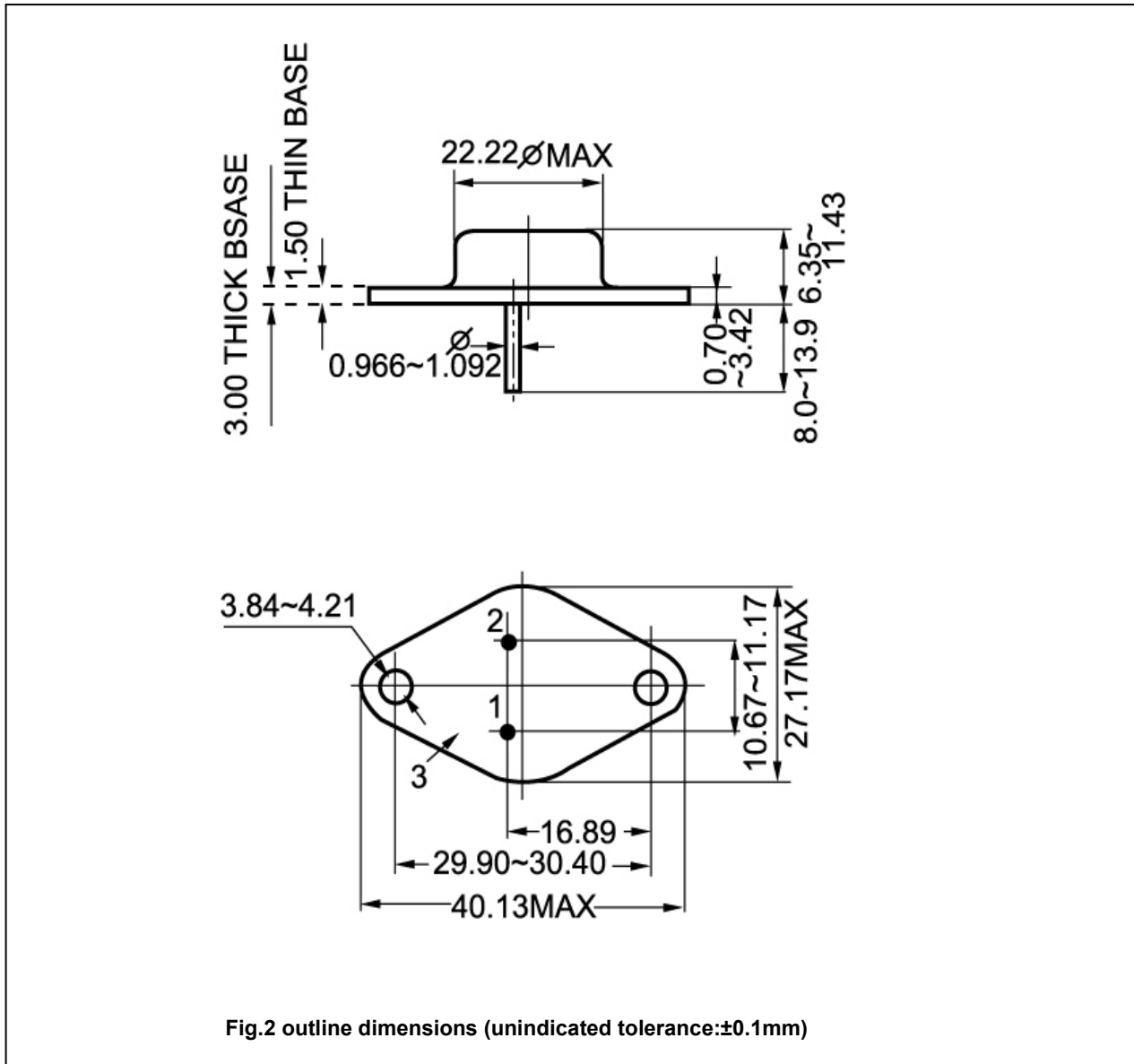


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)