



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

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

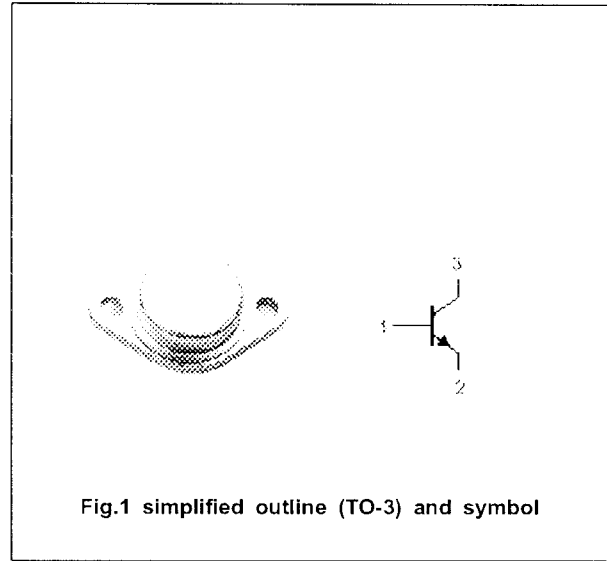


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings(Tc=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CB0</sub>	Collector-base voltage	Open emitter	1300	V
V <sub>CE0</sub>	Collector-emitter voltage	Open base	750	V
V <sub>EB0</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°C T <sub>C</sub> =100°C	175 100	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R <sub>th J-C</sub>	Thermal resistance junction to case	1.0	°C/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>CEQ(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =50mA; I <sub>B</sub> =0	750			V
V <sub>CEsat-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>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =10A; I <sub>B</sub> =5A			5.0	V
V <sub>BEsat</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> =1300V, V <sub>BE(off)</sub> =1.5Vdc T <sub>C</sub> =100°C			0.25 1.50	mA
I <sub>CLR</sub>	Collector cut-off current	V <sub>CE</sub> =1300V; R <sub>BE</sub> =50 Ω 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 output 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> =3 Ω PW=25 μs 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



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PACKAGE OUTLINE

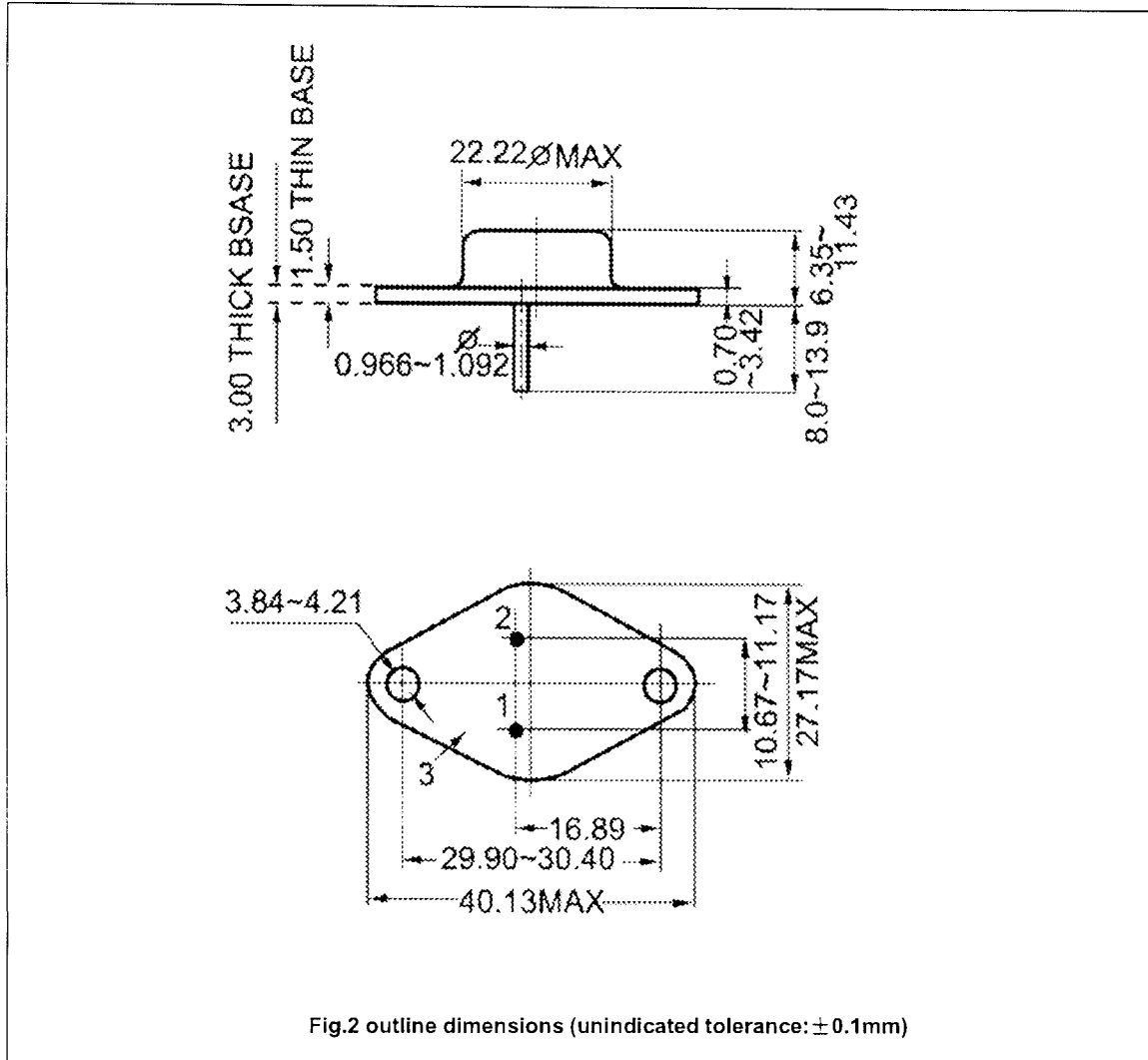


Fig.2 outline dimensions (unindicated tolerance:  $\pm 0.1\text{mm}$ )