

Silicon NPN Power Transistors

MJ3000/3001

DESCRIPTION

- With TO-3 package
- DARLINGTON
- High DC current gain
- Complement to type MJ2500/2501

APPLICATIONS

- For use as output devices in complementary general purpose amplifier applications

PINNING(see Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

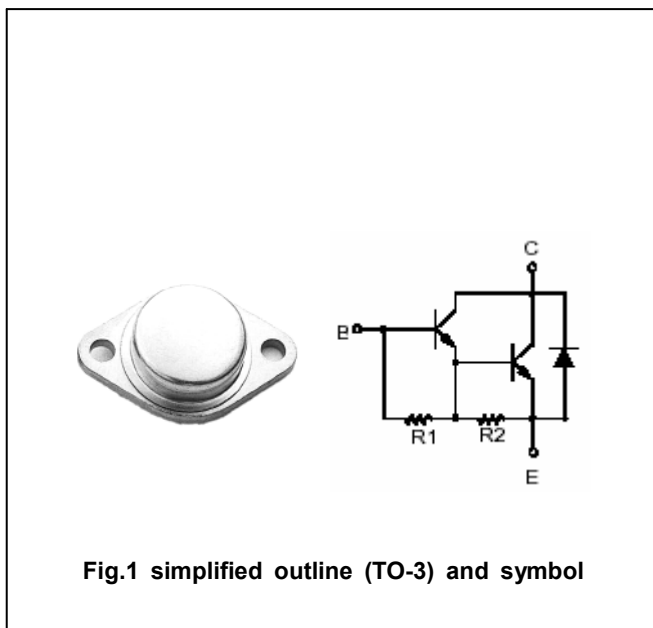


Fig.1 simplified outline (TO-3) and symbol

ABSOLUTE MAXIMUM RATINGS(T<sub>C</sub>=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	MJ3000	60	V
		MJ3001	80	
V <sub>CEO</sub>	Collector-emitter voltage	MJ3000	60	V
		MJ3001	80	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		10	A
I <sub>B</sub>	Base current		0.2	A
P <sub>D</sub>	Total power dissipation	T <sub>C</sub> =25°C	150	W
T <sub>j</sub>	Junction temperature		200	°C
T <sub>stg</sub>	Storage temperature		-55~200	°C

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## CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	MJ3000	I <sub>C</sub> =0.1A ; I <sub>B</sub> =0	60			V
		MJ3001		80			
V <sub>CE(sat)-1</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =5A ; I <sub>B</sub> =20mA			2.0	V
V <sub>CE(sat)-2</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =10A ; I <sub>B</sub> =50mA			4.0	V
V <sub>BE</sub>	Base-emitter on voltage		I <sub>C</sub> =5A ; V <sub>CE</sub> =3V			3.0	V
I <sub>CER</sub>	Collector cut-off current	MJ3000	V <sub>CE</sub> =60V ; R <sub>BE</sub> =1.0kΩ T <sub>C</sub> =150 °C			1.0 5.0	mA
		MJ3001	V <sub>CE</sub> =80V ; R <sub>BE</sub> =1.0kΩ T <sub>C</sub> =150 °C			1.0 5.0	
I <sub>CEO</sub>	Collector cut-off current	MJ3000	V <sub>CE</sub> =30V ; I <sub>B</sub> =0			1.0	mA
		MJ3001	V <sub>CE</sub> =40V ; I <sub>B</sub> =0				
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =5V ; I <sub>C</sub> =0			2.0	mA
h <sub>FE</sub>	DC current gain		I <sub>C</sub> =5A ; V <sub>CE</sub> =3V	1000			

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal resistance junction to case	1.17	°C/W

PACKAGE OUTLINE

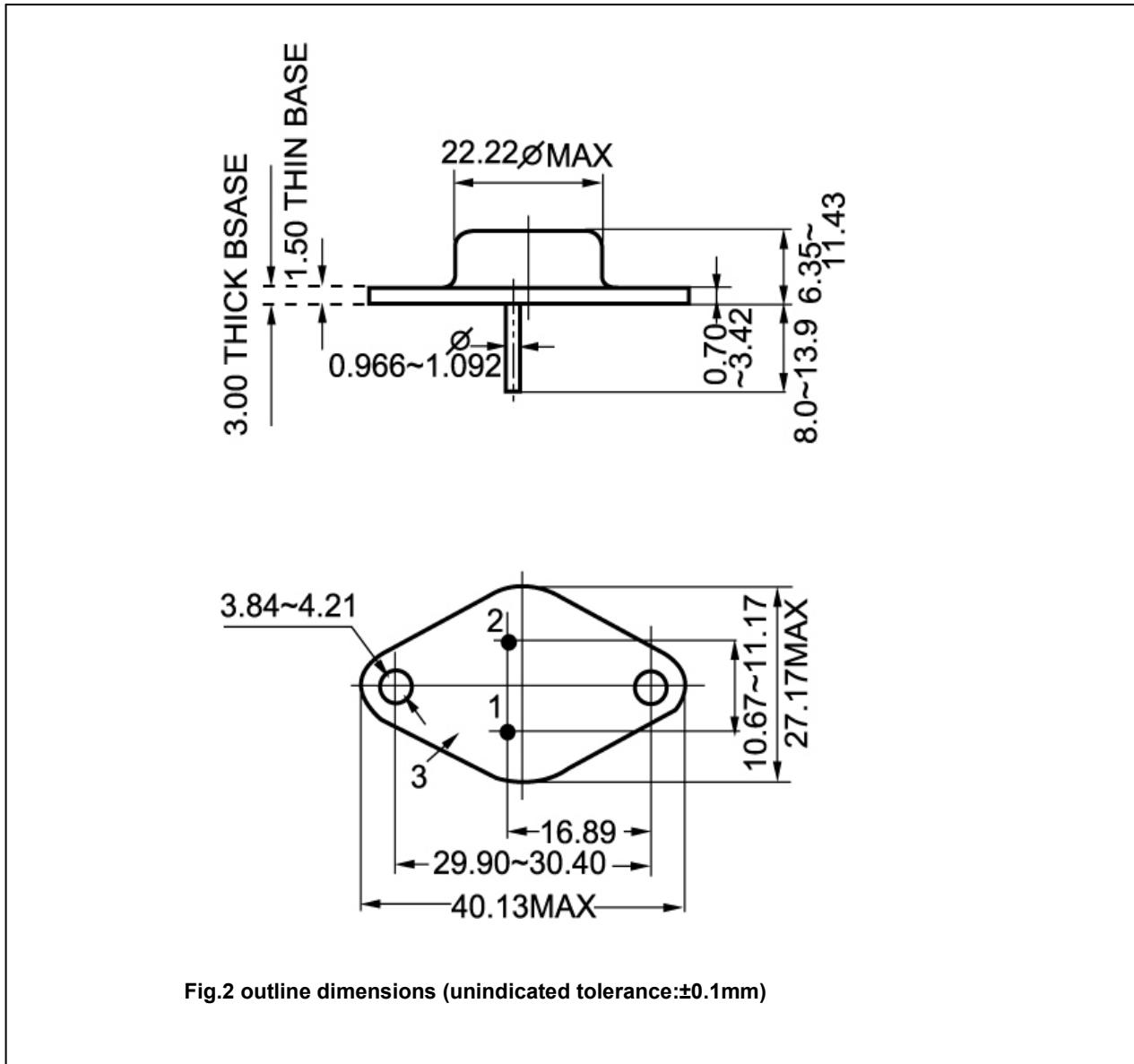


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)