

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

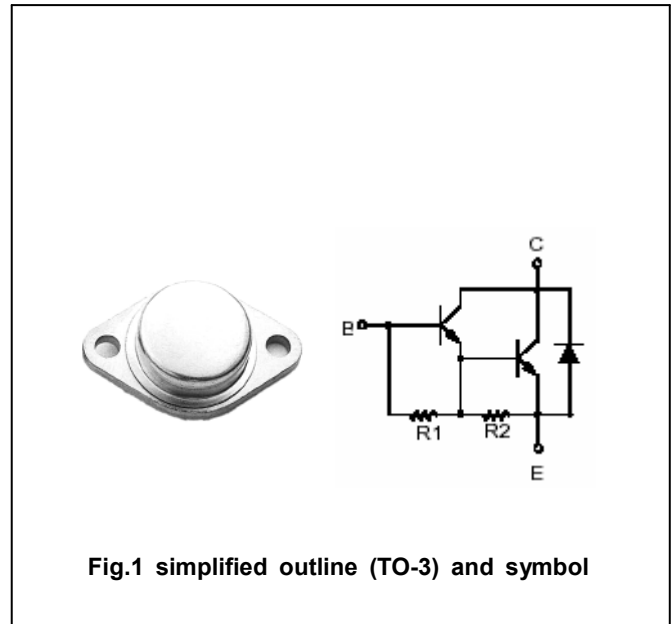


Fig.1 simplified outline (TO-3) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	MJ3000	60	V
		MJ3001	80	
V_{CEO}	Collector-emitter voltage	MJ3000	60	V
		MJ3001	80	
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		10	A
I_B	Base current		0.2	A
P_D	Total power dissipation	$T_C=25^\circ\text{C}$	150	W
T_j	Junction temperature		200	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~200	$^\circ\text{C}$

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal resistance junction to case	1.17	°C/W

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PACKAGE OUTLINE



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