

**Silicon NPN Power Transistors**

**2N5050 2N5051 2N5052**

**DESCRIPTION**

- With TO-66 package
- High breakdown voltage
- Excellent safe operating area

**APPLICATIONS**

- Designed for driver circuits,switching and amplifier applications

**PINNING**

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

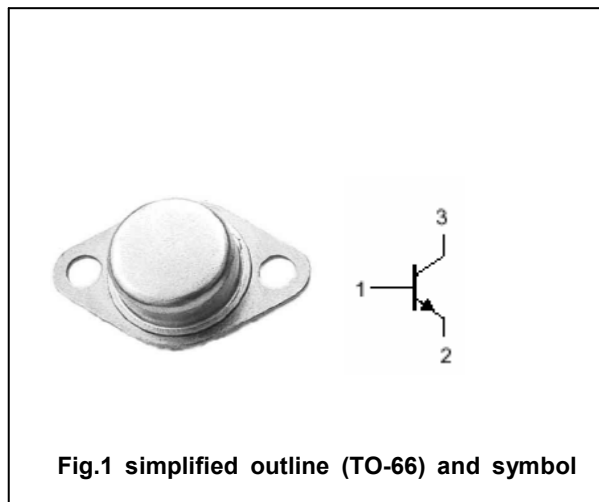


Fig.1 simplified outline (TO-66) and symbol

**Absolute maximum ratings(Ta=□)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	2N5050	125	V
		2N5051	150	
		2N5052	200	
V <sub>CEO</sub>	Collector-emitter voltage	2N5050	125	V
		2N5051	150	
		2N5052	200	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		2	A
P <sub>D</sub>	Total Power Dissipation	T <sub>C</sub> =25□	40	W
T <sub>j</sub>	Junction temperature		150	□
T <sub>stg</sub>	Storage temperature		-65~200	□

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	VALUE	UNIT
R <sub>th j-c</sub>	Thermal resistance junction to case	7.0	□/W

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## 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	2N5050	I <sub>C</sub> =0.1A ; I <sub>B</sub> =0	125		V
		2N5051		150		
		2N5052		200		
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =2A; I <sub>B</sub> =0.5A			1.2	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =2A; I <sub>B</sub> =0.5A			1.5	V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =750mA ; V <sub>CE</sub> =5V			1.2	V
I <sub>CEO</sub>	Collector cut-off current	2N4910	V <sub>CE</sub> =125V; I <sub>B</sub> =0		5.0	mA
		2N4911		V <sub>CE</sub> =150V; I <sub>B</sub> =0		
		2N4912		V <sub>CE</sub> =200V; I <sub>B</sub> =0		
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =Rated V <sub>CBO</sub> ; I <sub>E</sub> =0			0.1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =7V; I <sub>C</sub> =0			1.0	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =750mA ; V <sub>CE</sub> =5V	25		100	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =500mA; V <sub>CE</sub> =10V; f=1MHz		10		MHz

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PACKAGE OUTLINE



Fig.2 outline dimensions