

**Silicon NPN Power Transistors**

**2N3879**

**DESCRIPTION**

- With TO-66 package
- Wide area of safe operation
- High sustaining voltage

**APPLICATIONS**

- For high-speed switching and linear-amplifier applications

**PINNING (See Fig.2)**

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

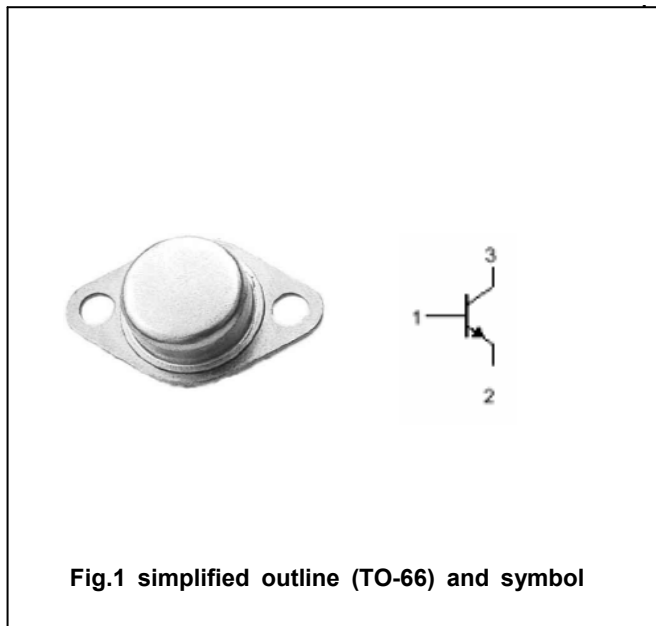


Fig.1 simplified outline (TO-66) and symbol

**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	120	V
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	Open base	75	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		7	A
I <sub>CM</sub>	Collector current-Peak		10	A
I <sub>B</sub>	Base current		5	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25°C	35	W
T <sub>j</sub>	Junction temperature		200	°C
T <sub>stg</sub>	Storage temperature		-65~200	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal resistance junction to case	5.0	°C/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	I <sub>C</sub> =0.2A ; I <sub>B</sub> =0	75			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =4A ; I <sub>B</sub> =0.4A			1.2	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =4A ; I <sub>B</sub> =0.4A			2.0	V
I <sub>CEV</sub>	Collector cut-off current	V <sub>CE</sub> =120V ; V <sub>BE(off)</sub> =1.5V V <sub>CE</sub> =100V ; V <sub>BE(off)</sub> =1.5V T <sub>C</sub> =150°C			0.5 4.0	mA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =40V ; I <sub>B</sub> =0			5.0	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-1</sub>	DC current gain	I <sub>C</sub> =4A ; V <sub>CE</sub> =2V	12		100	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =4A ; V <sub>CE</sub> =5V	20		80	
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =5V	40			
C <sub>OB</sub>	Collector output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =10V ; f=1MHz			175	pF

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PACKAGE OUTLINE



Fig.2 Outline dimensions