

Silicon NPN Power Transistors

2N6513

**DESCRIPTION**

- With TO-3 package
- High breakdown voltage
- Low collector saturation voltage

**APPLICATIONS**

- For use in switching power supply applications and other inductive switching circuits

**PINNING**

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

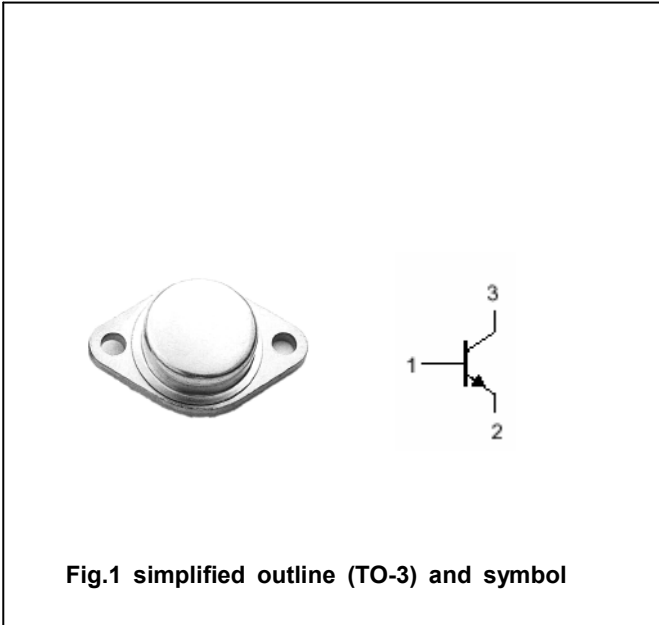


Fig.1 simplified outline (TO-3) and symbol

**Absolute maximum ratings(Ta=□)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	400	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	350	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		14	A
P <sub>D</sub>	Total power dissipation	T <sub>C</sub> =25□	120	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	1.25	□/W

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.1A ; I <sub>B</sub> =0	350			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =3A; I <sub>B</sub> =0.4A			1.0	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =1A			1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =1A			1.5	V
I <sub>CES</sub>	Collector cut-off current	V <sub>CE</sub> =400V; V <sub>BE(off)</sub> =-1.5V T <sub>C</sub> =100 °C			0.1 1.5	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =7V; I <sub>C</sub> =0			0.1	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =4A ; V <sub>CE</sub> =3V	10		50	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =10V		3		MHz

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PACKAGE OUTLINE



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