

Silicon NPN Power Transistors

2N5157

**DESCRIPTION**

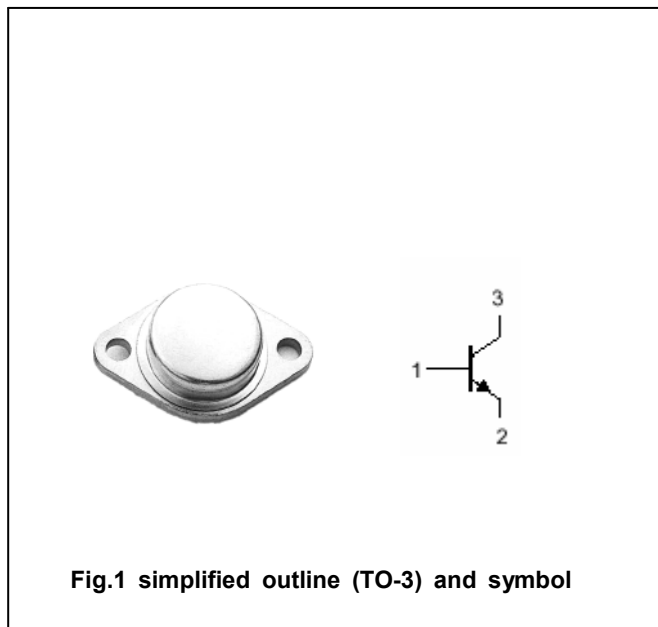
- With TO-3 package
- High breakdown voltage

**APPLICATIONS**

- Switching regulator
- Inverters
- Solenoid and relay drivers
- Motor controls

**PINNING (See Fig.2)**

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector



**Absolute maximum ratings(Ta=□)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	700	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	500	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		3.5	A
P <sub>T</sub>	Total power dissipation	T <sub>c</sub> =25□	100	W
T <sub>j</sub>	Junction temperature		165	□
T <sub>stg</sub>	Storage temperature		-65~200	□

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal resistance from junction to case	1.0	□/W

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEQ(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.1A ; I <sub>B</sub> =0	500			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =3A; I <sub>B</sub> =0.5A			1.2	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =3A; I <sub>B</sub> =0.5A			1.5	V
I <sub>CB0</sub>	Collector cut-off current	V <sub>CB</sub> =700V; I <sub>E</sub> =0 T <sub>C</sub> =125°C			0.2 2.0	mA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =500V; 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</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V	30		90	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =10V;f=5.0MHz		2.8		MHz

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PACKAGE OUTLINE

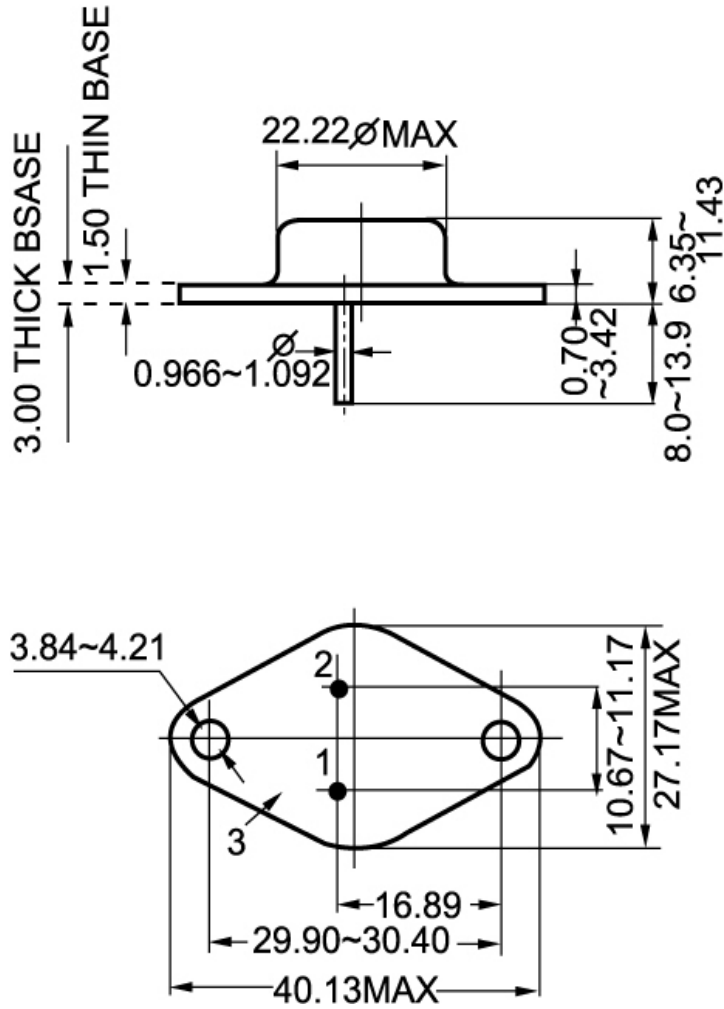


Fig.2 Outline dimensions