

**Silicon NPN Power Transistors**

**BU931**

**DESCRIPTION**

- With TO-3 package
- High voltage
- DARLINGTON

**APPLICATIONS**

- High ruggedness electronic ignitions.
- High voltage ignition coil driver

**PINNING(see fig.2)**

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

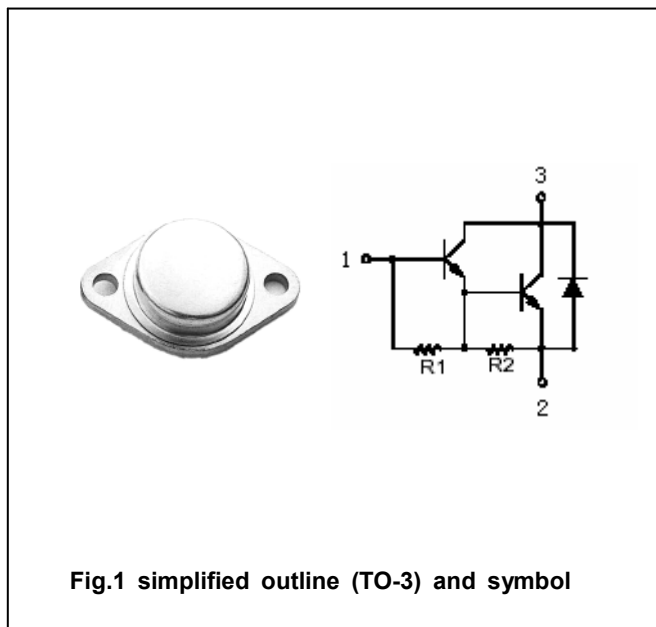


Fig.1 simplified outline (TO-3) and symbol

**Absolute maximum ratings (Tc=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	500	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	400	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		15	A
I <sub>CM</sub>	Collector current-peak		30	A
I <sub>B</sub>	Base current		1	A
I <sub>BM</sub>	Base current (peak)		5	A
P <sub>T</sub>	Total power dissipation	T <sub>c</sub> =25°C	175	W
T <sub>j</sub>	Junction temperature		-65~200	°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	1.0	°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>CE0(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.1A; I <sub>B</sub> =0; L=10mH	400			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =7A; I <sub>B</sub> =70mA			1.6	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =8 A; I <sub>B</sub> =100mA			1.8	V
V <sub>CEsat-3</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =10 A; I <sub>B</sub> =250mA			1.8	V
V <sub>BEsat-1</sub>	Base-emitter saturation voltage	I <sub>C</sub> =7A; I <sub>B</sub> =70mA			2.2	V
V <sub>BEsat-2</sub>	Base-emitter saturation voltage	I <sub>C</sub> =8 A; I <sub>B</sub> =100mA			2.4	V
V <sub>BEsat-3</sub>	Base-emitter saturation voltage	I <sub>C</sub> =10A; I <sub>B</sub> =250mA			2.5	V
I <sub>CES</sub>	Collector cut-off current	V <sub>CE</sub> =500V; V <sub>BE</sub> =0 T <sub>j</sub> =125°C			0.1 0.5	mA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =450V; I <sub>B</sub> =0 T <sub>j</sub> =125°C			0.1 0.5	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			20	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =5A ; V <sub>CE</sub> =10V	300			
V <sub>F</sub>	Diode forward voltage	I <sub>F</sub> =10A			2.5	V

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PACKAGE OUTLINE

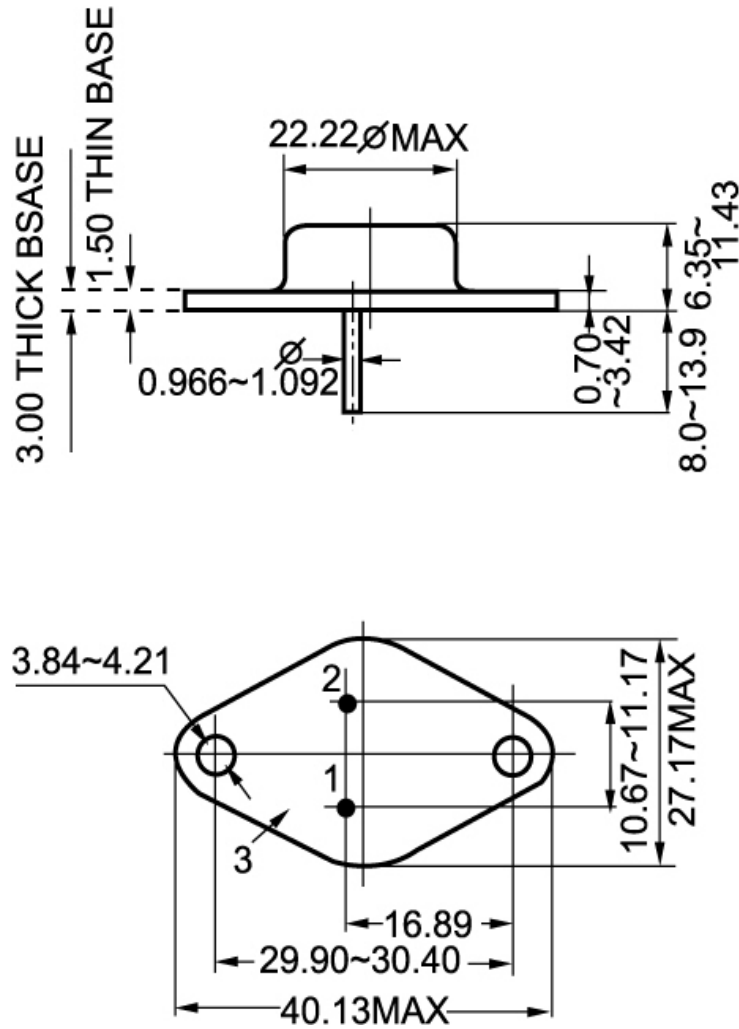


Fig.2 Outline dimensions