

Silicon NPN Power Transistors

BU931ZP

DESCRIPTION

- With TO-3PN package
- DARLINGTON
- High breakdown voltage

APPLICATIONS

- Application in high performance electronic car ignition

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

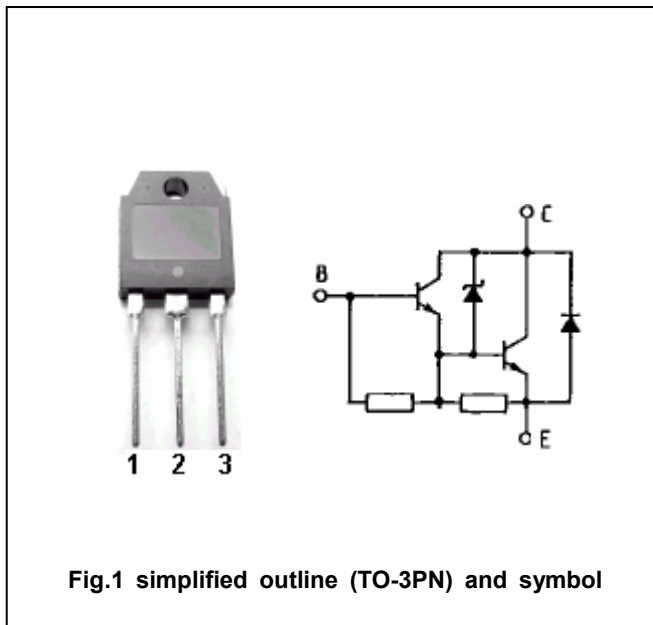


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	350	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	350	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		20	A
I <sub>B</sub>	Base current		5	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25°C	125	W
T <sub>j</sub>	Max.operating junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-40~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-case</sub>	Thermal resistance junction 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>CL</sub>	Clamping voltage	I <sub>C</sub> =0.1 A ; I <sub>B</sub> =0	350		500	V
V <sub>CE(sat-1)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =7A ; I <sub>B</sub> =70mA			1.6	V
V <sub>CE(sat-2)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =8A ; I <sub>B</sub> =100m A			1.8	V
V <sub>CE(sat-3)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =10A ; I <sub>B</sub> =150m A			2.0	V
V <sub>BE(sat-1)</sub>	Base-emitter saturation voltage	I <sub>C</sub> =8A ; I <sub>B</sub> =100m A			2.2	V
V <sub>BE(sat-2)</sub>	Base-emitter saturation voltage	I <sub>C</sub> =10A ; I <sub>B</sub> =250m A			2.5	V
V <sub>BE-1</sub>	Base-emitter on voltage	I <sub>C</sub> =5A ; V <sub>CE</sub> =2V		1.67		V
V <sub>BE-2</sub>	Base-emitter on voltage	I <sub>C</sub> =10A ; V <sub>CE</sub> =2V		2.0		V
I <sub>CL</sub>	Clamping current	V <sub>CE</sub> =350V ; I <sub>B</sub> =0			0.25	mA
I <sub>CE(off)</sub>	Collector-emitter off state current	V <sub>CC</sub> =16V ; V <sub>BE</sub> =300mV T <sub>j</sub> =125°C			0.5	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V ; I <sub>C</sub> =0			50	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =5A ; V <sub>CE</sub> =2V	300			
V <sub>F</sub>	Diode forward voltage	I <sub>F</sub> =10A			2.5	V

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PACKAGE OUTLINE

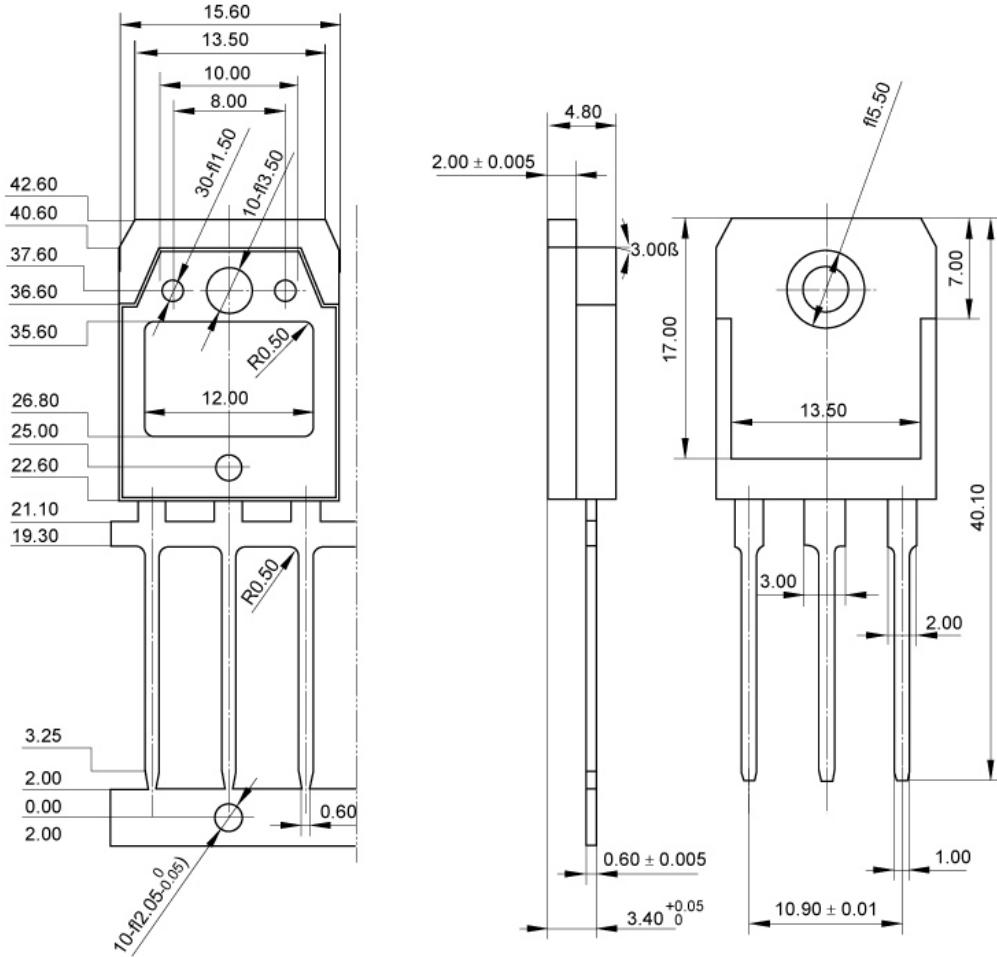


Fig.2 outline dimensions (unindicated tolerance:±0.10 mm)