

# isc Silicon NPN Power Transistor

# BU931

## DESCRIPTION

- High Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

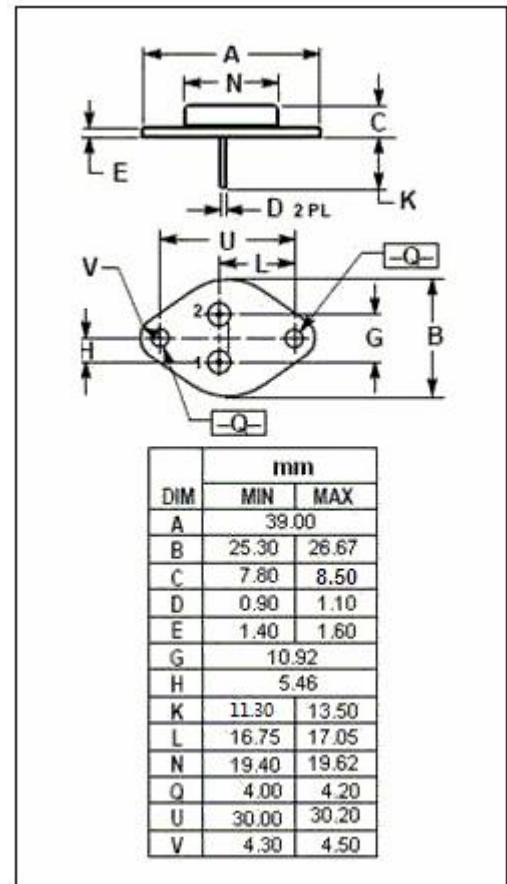
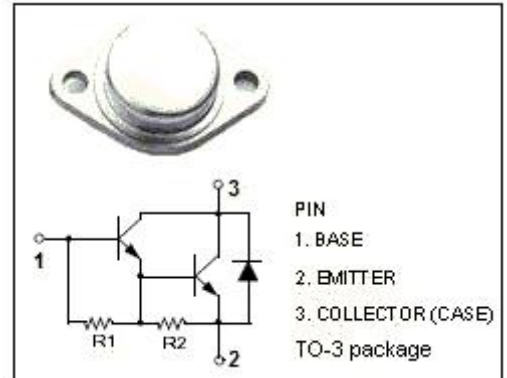
- High ruggedness electronic ignitions
- High voltage ignition coil driver

## ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	500	V
V <sub>CEO</sub>	Collector-Emitter Voltage	400	V
V <sub>EBO</sub>	Emitter-Base Voltage	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>C</sub>	Collector Power Dissipation @T <sub>C</sub> =25°C	175	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-65~150	°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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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Voltage	Sustaining I <sub>C</sub> = 50mA; I <sub>B</sub> = 0;	400			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Voltage	Saturation I <sub>C</sub> = 7A; I <sub>B</sub> = 70mA			1.6	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Voltage	Saturation I <sub>C</sub> = 8 A; I <sub>B</sub> = 100mA			1.8	V
V <sub>CE(sat)-3</sub>	Collector-Emitter Voltage	Saturation I <sub>C</sub> = 10 A; I <sub>B</sub> = 250mA			1.8	V
V <sub>BE(sat)-1</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 7A; I <sub>B</sub> = 70mA			2.2	V
V <sub>BE(sat)-2</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 8 A; I <sub>B</sub> = 100mA			2.4	V
V <sub>BE(sat)-3</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 10A; I <sub>B</sub> = 250mA			2.5	V
I <sub>CES</sub>	Collector Cutoff Current	V <sub>CE</sub> = 500V; V <sub>BE</sub> = 0 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 Cutoff Current	V <sub>CE</sub> = 450V; I <sub>B</sub> = 0 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 Cutoff 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>ECF</sub>	C-E Diode Forward Voltage	I <sub>F</sub> = 10A			2.5	V

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