

# isc Silicon NPN Power Transistor

# BUW91

## DESCRIPTION

- High Current Capability
- Fast Switching Speed
- Low Saturation Voltage and High Gain
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

Designed for use in high frequency and efficiency converters such as motor controllers and industrial equipment such as:

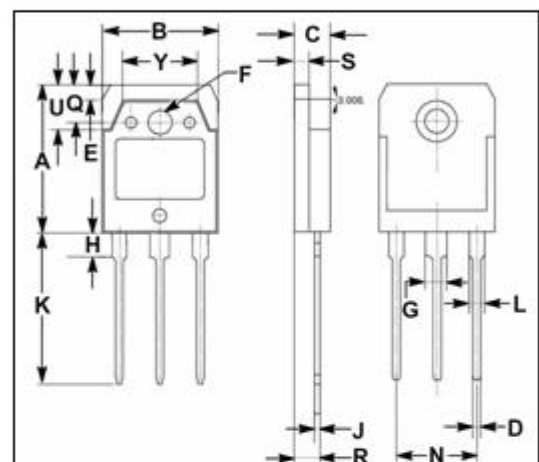
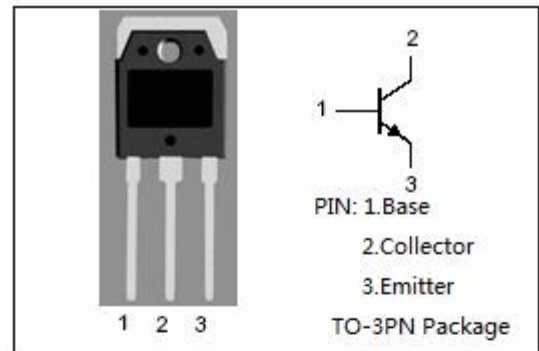
- Switching regulators
- Motor control
- High frequency and efficiency converters

## Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CEV</sub>	Collector-Emitter Voltage (V <sub>BE</sub> = -1.5V)	300	V
V <sub>CEO</sub>	Collector-Emitter Voltage	200	V
V <sub>EBO</sub>	Emitter-Base Voltage	7	V
I <sub>c</sub>	Collector Current-Continuous	15	A
I <sub>CM</sub>	Collector Current-Peak	20	A
I <sub>B</sub>	Base Current-Continuous	3	A
I <sub>BM</sub>	Base Current-peak	5	A
P <sub>C</sub>	Collector Power Dissipation @T <sub>C</sub> =25°C	125	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	1.2	°C/W



DIM	mm	
	MIN	MAX
A	19.60	20.30
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.20
H	3.20	3.40
J	0.595	0.605
K	19.80	20.70
L	1.90	2.20
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.100
U	5.90	6.20
Y	9.90	10.10

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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 Sustaining Voltage	I <sub>C</sub> =50mA ; I <sub>B</sub> = 0	200			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 50mA; I <sub>C</sub> = 0	7			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 0.15A			0.8	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 6A; I <sub>B</sub> = 0.6A			0.9	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 6A; I <sub>B</sub> = 0.6A			1.6	V
I <sub>CBO</sub>	Collectro-Base Cutoff Current	V <sub>CB</sub> =300V; I <sub>E</sub> = 0 V <sub>CB</sub> =300V; I <sub>E</sub> = 0; T <sub>C</sub> =100°C			0.5 2.5	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			1.0	mA
Switching times; Resistive Load						
t <sub>r</sub>	Rise Time	I <sub>C</sub> = 8A; I <sub>B1</sub> = 1A; V <sub>CC</sub> = 160V; V <sub>BB</sub> = -5V; R <sub>B</sub> = 2.5Ω ; t <sub>p</sub> = 30 μ s			0.5	μ s
t <sub>s</sub>	Storage Time				1.2	μ s
t <sub>f</sub>	Fall Time				0.3	μ s

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