

**isc Silicon NPN Power Transistor**

**BUW92**

**DESCRIPTION**

- High Current Capability
- Fast Switching Speed
- Low Saturation Voltage and High Gain

**APPLICATIONS**

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

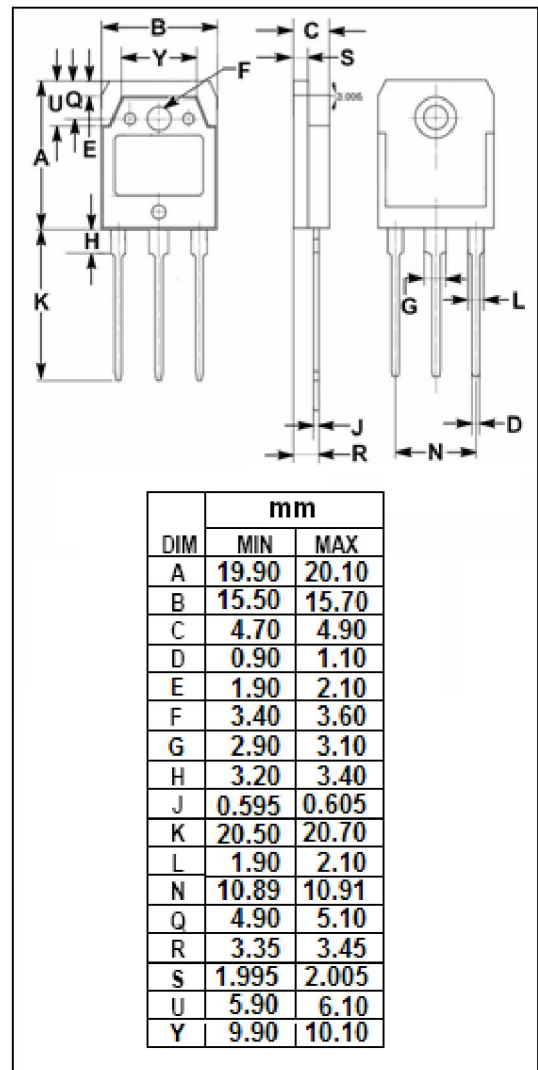
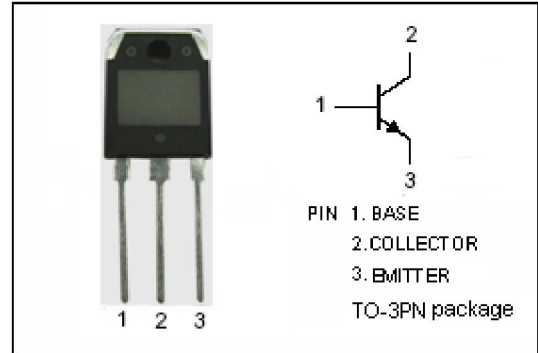
- Switching regulators
- Motor control
- High frequency and efficiency converters

**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CEV</sub>	Collector-Emitter Voltage (V <sub>BE</sub> = -1.5V)	350	V
V <sub>CEO</sub>	Collector-Emitter Voltage	250	V
V <sub>EBO</sub>	Emitter-Base Voltage	7	V
I <sub>C</sub>	Collector Current-Continuous	12	A
I <sub>CM</sub>	Collector Current-Peak	18	A
I <sub>B</sub>	Base Current-Continuous	2.5	A
I <sub>BM</sub>	Base Current-peak	4	A
P <sub>C</sub>	Collector Power Dissipation @T <sub>C</sub> =25°C	125	W
T <sub>J</sub>	Junction Temperature	175	°C
T <sub>stg</sub>	Storage Temperature Range	-65~175	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	1.2	°C/W



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## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.2\text{A}; I_B=0; L=25\text{mH}$	250			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=50\text{mA}; I_C=0$	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.13\text{A}$			0.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=0.5\text{A}$			0.9	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.4\text{A}$			1.3	V
$I_{CER}$	Collector Cutoff Current	$V_{CE}=V_{CEV}; R_{BE}=10\ \Omega$ $V_{CE}=V_{CEX}; R_{BE}=10\ \Omega; T_C=100^{\circ}\text{C}$			0.5 2.5	mA
$I_{CEV}$	Collector Cutoff Current	$V_{CE}=V_{CEV}; V_{BE}=-1.5\text{V}$ $V_{CE}=V_{CEV}; V_{BE}=-1.5\text{V}; T_C=100^{\circ}\text{C}$			0.5 2.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			1.0	mA

Switching times; Resistive Load

$t_r$	Rise Time	$I_C=6\text{A}; I_{B1}=0.75\text{A}; V_{CC}=200\text{V};$ $V_{BB}=-5\text{V}; R_{B2}=3.3\ \Omega; t_p=30\ \mu\text{s}$			0.4	$\mu\text{s}$
$t_s$	Storage Time				1.6	$\mu\text{s}$
$t_f$	Fall Time				0.3	$\mu\text{s}$