

isc Silicon NPN Power Transistor

BUW91

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:

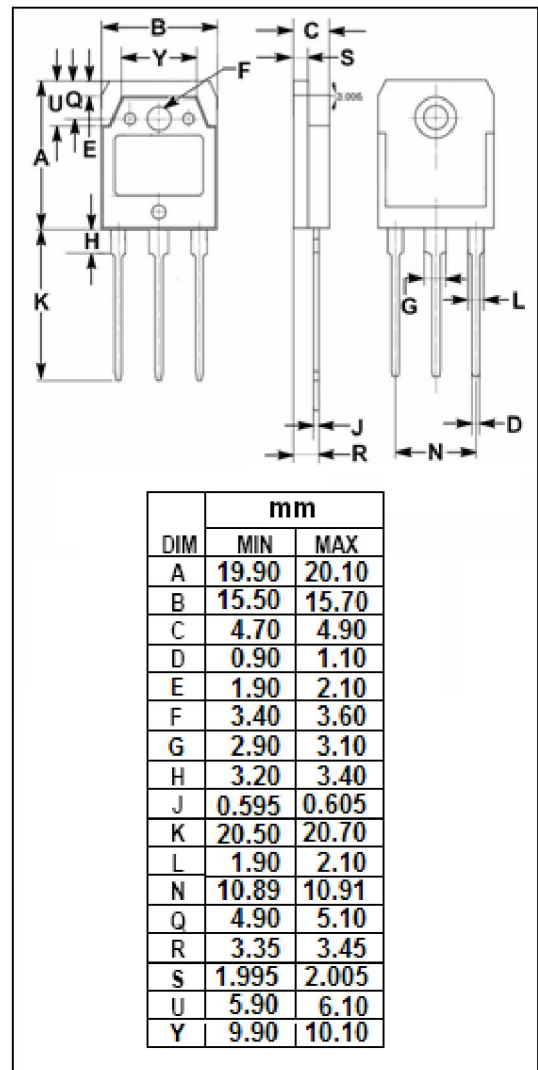
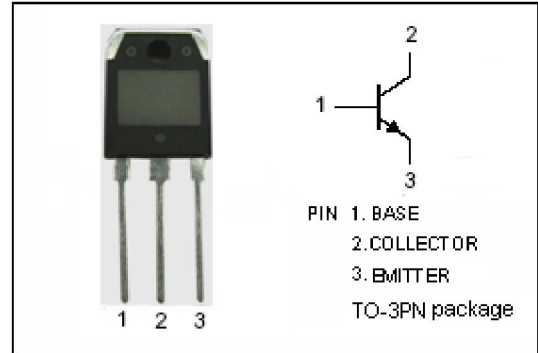
- Switching regulators
- Motor control
- High frequency and efficiency converters

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CEV}	Collector-Emitter Voltage (V _{BE} = -1.5V)	300	V
V _{CEO}	Collector-Emitter Voltage	200	V
V _{EBO}	Emitter-Base Voltage	7	V
I _C	Collector Current-Continuous	15	A
I _{CM}	Collector Current-Peak	20	A
I _B	Base Current-Continuous	3	A
I _{BM}	Base Current-peak	5	A
P _C	Collector Power Dissipation @T _C =25°C	125	W
T _J	Junction Temperature	175	°C
T _{stg}	Storage Temperature Range	-65~175	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	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	$I_C=0.2\text{A}$; $I_B=0$; $L=25\text{mH}$	200			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	$I_C=3\text{A}$; $I_B=0.15\text{A}$			0.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=6\text{A}$; $I_B=0.6\text{A}$			0.9	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=6\text{A}$; $I_B=0.6\text{A}$			1.6	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	$I_C=8\text{A}$; $I_{B1}=1\text{A}$; $V_{CC}=160\text{V}$; $V_{BB}=-5\text{V}$; $R_B=2.5\ \Omega$; $t_p=30\ \mu\text{s}$			0.5	μs
t_s	Storage Time				1.2	μs
t_f	Fall Time				0.3	μs