

**isc Silicon NPN Power Transistor**
**BUW12AW**
**DESCRIPTION**

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 450V(\text{Min.})$
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 1.5V(\text{Max.})@I_C = 5A$
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

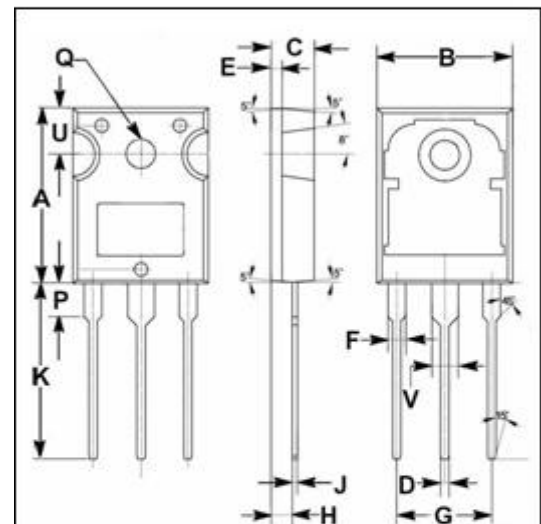
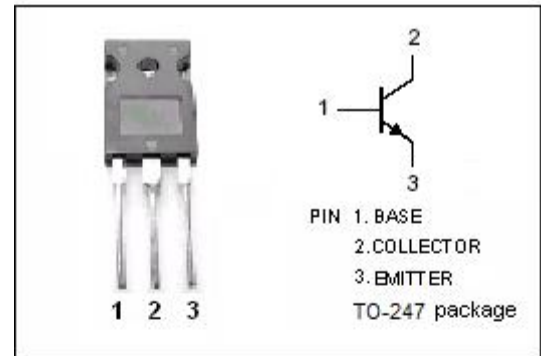
- Designed for high voltage, fast switching industrial applications.

**ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	1000	V
$V_{CEO}$	Collector-Emitter Voltage	450	V
$V_{EBO}$	Emitter-Base Voltage	9	V
$I_C$	Collector Current-Continuous	8	A
$I_{CM}$	Collector Current-Peak	20	A
$I_B$	Base Current	4	A
$I_{BM}$	Base Current-Peak	6	A
$P_C$	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	125	W
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.0	$^\circ\text{C}/\text{W}$



DIM	mm	
	MIN	MAX
A	19.80	20.20
B	15.40	15.80
C	4.90	5.10
D	0.90	1.10
E	1.40	1.60
F	1.90	2.10
G	10.80	11.00
H	2.40	2.60
J	0.50	0.70
K	19.50	20.50
P	3.90	4.10
Q	3.30	3.50
U	5.20	5.40
V	2.90	3.10

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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	450			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>c</sub> = 5A; I <sub>B</sub> = 1A			1.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>c</sub> = 5A; I <sub>B</sub> = 1A			1.5	V
I <sub>CES</sub>	Collector Cutoff Current	V <sub>CE</sub> =V <sub>CES</sub> ; V <sub>BE</sub> = 0 V <sub>CE</sub> =V <sub>CES</sub> ; V <sub>BE</sub> = 0; T <sub>C</sub> =125°C			1.0 3.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 9V; I <sub>c</sub> = 0			10	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>c</sub> = 10mA; V <sub>CE</sub> = 5V	10		35	
h <sub>FE-2</sub>	DC Current Gain	I <sub>c</sub> = 1A; V <sub>CE</sub> = 5V	10		35	

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