

**isc Silicon NPN Power Transistors**
**BUW40/A/B**
**DESCRIPTION**

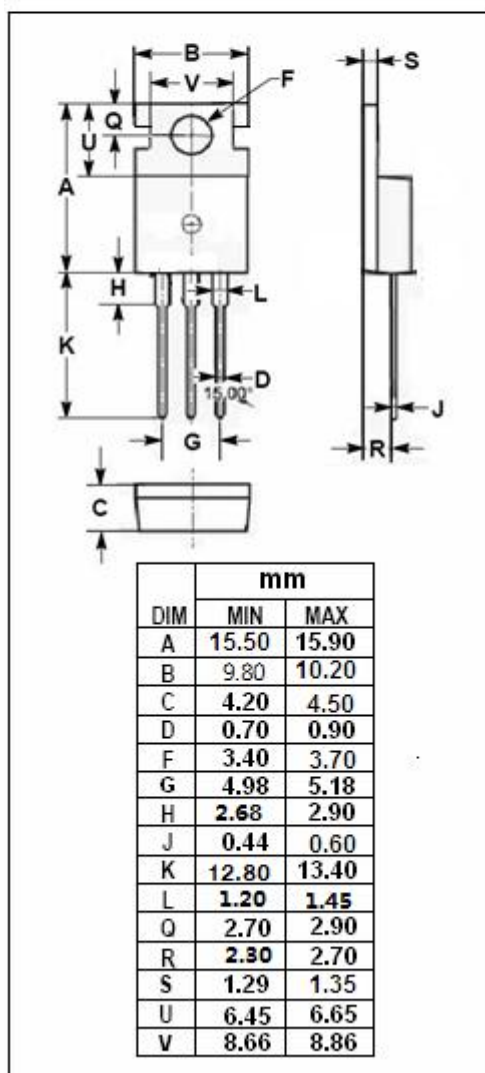
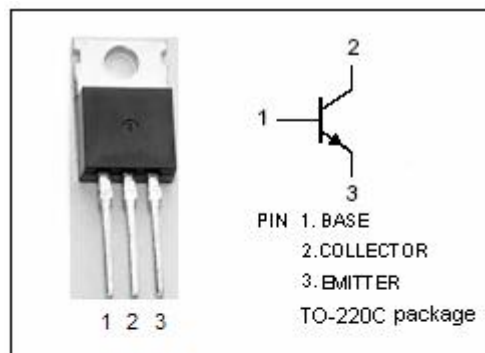
- Collector-Emitter Sustaining Voltage-  
 :  $V_{CEO(SUS)} = 300V(\text{Min})$ - BUW40  
   =  $350V(\text{Min})$ - BUW40A  
   =  $400V(\text{Min})$ - BUW40B
- High Switching Speed
- High Power Dissipation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for high voltage and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CEV}$	Collector-Emitter Voltage $V_{BE} = -1.5V$	BUW40	450	V
		BUW40A	550	
		BUW40B	650	
$V_{CEO(SUS)}$	Collector-Emitter Voltage	BUW40	300	V
		BUW40A	350	
		BUW40B	400	
$V_{EBO}$	Emitter-Base Voltage	6	V	
$I_C$	Collector Current-Continuous	1	A	
$I_{CM}$	Collector Current-Peak	2	A	
$P_C$	Collector Power Dissipation@ $T_c=25^\circ\text{C}$	40	W	
$T_J$	Junction Temperature	150	$^\circ\text{C}$	
$T_{stg}$	Storage Temperature	-65~150	$^\circ\text{C}$	



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**BUW40/A/B**
**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	BUW40	I <sub>C</sub> = 50mA ; I <sub>B</sub> = 0	300			V	
		BUW40A		350				
		BUW40B		400				
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage		I <sub>E</sub> = 1mA ; I <sub>C</sub> = 0	6			V	
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage		I <sub>C</sub> = 1A; I <sub>B</sub> = 0.2A I <sub>C</sub> = 1A; I <sub>B</sub> = 0.2A, T <sub>C</sub> = 150°C			1.0 2.0	V	
V <sub>BE(on)</sub>	Base-Emitter On Voltage		I <sub>C</sub> = 1A ; V <sub>CE</sub> = 3V			1.5	V	
I <sub>CEV</sub>	Collector Cutoff Current	BUW40	V <sub>CE</sub> = 450V; V <sub>BE</sub> = -1.5V V <sub>CE</sub> = 450V; V <sub>BE</sub> = -1.5V, T <sub>C</sub> = 150°C			0.1 1.0	mA	
		BUW40A		V <sub>CE</sub> = 550V; V <sub>BE</sub> = -1.5V V <sub>CE</sub> = 550V; V <sub>BE</sub> = -1.5V, T <sub>C</sub> = 150°C				0.1 1.0
		BUW40B		V <sub>CE</sub> = 650V; V <sub>BE</sub> = -1.5V V <sub>CE</sub> = 650V; V <sub>BE</sub> = -1.5V, T <sub>C</sub> = 150°C				0.1 1.0
I <sub>EBO</sub>	Emitter Cutoff Current		V <sub>EB</sub> = 6V; I <sub>C</sub> =0			1.0	mA	
h <sub>FE</sub>	DC Current Gain		I <sub>C</sub> = 1A ; V <sub>CE</sub> = 3V	10		50		
f <sub>T</sub>	Current-Gain—Bandwidth Product		I <sub>C</sub> = 0.5A ; V <sub>CE</sub> = 10V	10			MHz	

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