

# SENSITRON SEMICONDUCTOR

# KBPC40, 50/W SERIES

## 40, 50A HIGH CURRENT BRIDGE RECTIFIER

### Data sheet 1301 Rev.A

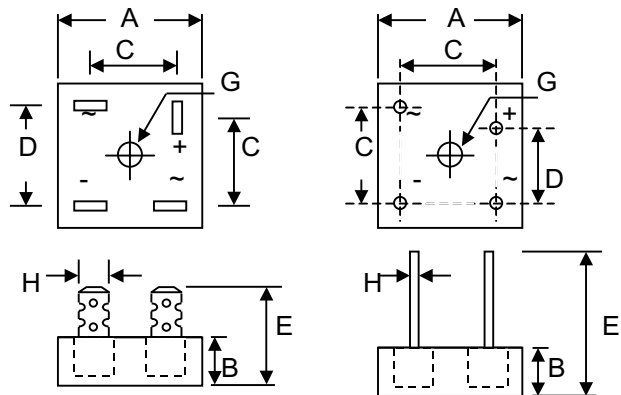
### Features

- Diffused Junction
- Low Reverse Leakage Current
- Low Power Loss, High Efficiency
- Electrically Isolated Metal Case for Maximum Heat Dissipation
- Case to Terminal Isolation Voltage 2500V
- UL Recognized File # E223064

### Mechanical Data

- Case: Metal Case with Electrically Isolated Epoxy
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Symbols Marked on Case
- Mounting: Through Hole for #8 Screw
- Weight: KBPC 31.6 grams (approx.)  
KBPC-W 28.5 grams (approx.)
- Marking: Type Number

"W" Suffix Designates Wire Leads  
No Suffix Designates Faston Terminals



KBPC

KBPC-W

Dim	KBPC				KBPC-W			
	Min	Max	Min	Max	Min	Max	Min	Max
A	28.40	28.7	1.118	1.130	28.40	28.7	1.118	1.130
B	10.97	11.23	0.432	0.442	10.97	11.23	0.432	0.442
C	15.70	16.70	0.618	0.657	17.10	19.10	0.673	0.752
D	17.50	18.50	0.689	0.728	10.90	11.90	0.429	0.469
E	22.86	25.40	0.90	1.00	30.50	—	1.201	—
G	Hole for #8 screw, 4.90mm(0.193inch)ØNormina							
H	6.35 Typical		0.25 Typical		0.97Ø	1.07Ø	0.038Ø	0.042Ø
	In mm		In inch		In mm		In inch	

### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristics	Symbol	-00/W	-01/W	-02/W	-04/W	-06/W	-08/W	-10/W	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Rectifier Output Current @T <sub>C</sub> = 55°C	I <sub>O</sub>	40 50							A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave Superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	400 400							A
Forward Voltage Drop (per element)	V <sub>FM</sub>	1.2							V
Peak Reverse Current At Rated DC Blocking Voltage	I <sub>RM</sub>	10 1.0							µA mA

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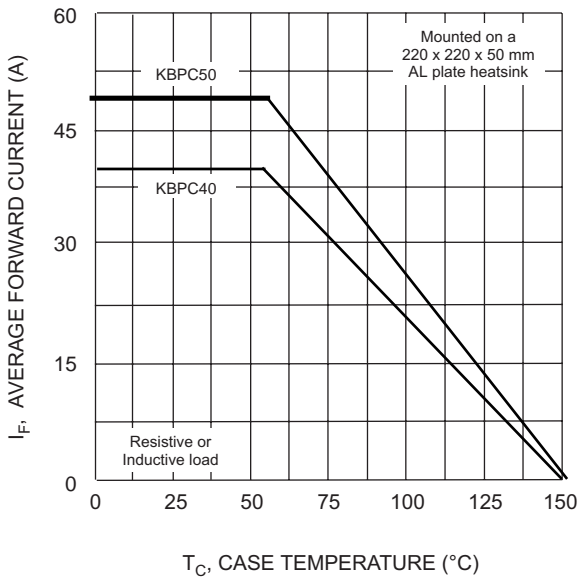
**Maximum Ratings and Electrical Characteristics** @ $T_A=25^{\circ}\text{C}$  unless otherwise specified

Typical Junction Capacitance (per element) (Note 1)	$C_j$	300	pF
Typical Thermal Resistance Junction to Case (per element) (Note 2)	$R_{\theta JC}$	1.5	K/W
RMS Isolation Voltage from Case to Lead	$V_{ISO}$	2500	V
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +150	$^{\circ}\text{C}$

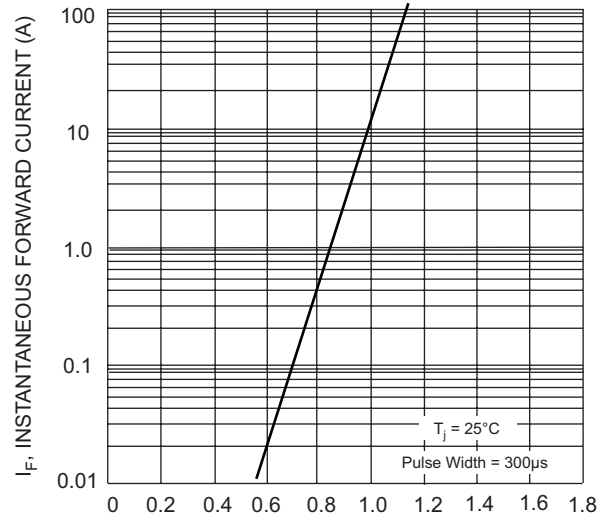
\* Glass passivated forms are available upon request.

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.  
2. Thermal resistance junction to case mounted on heatsink.

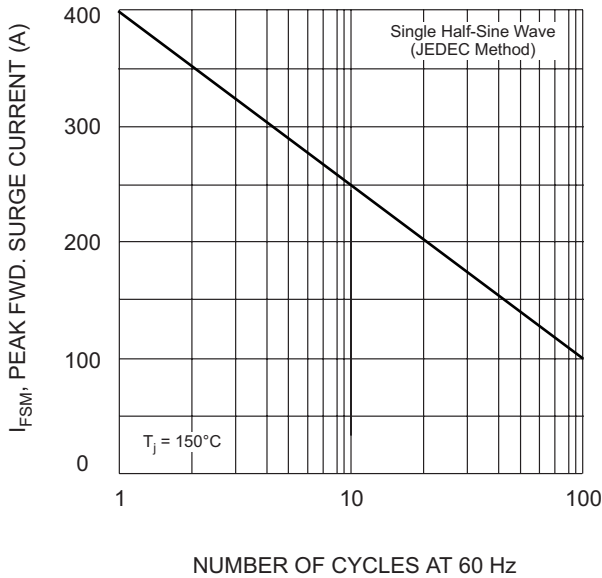
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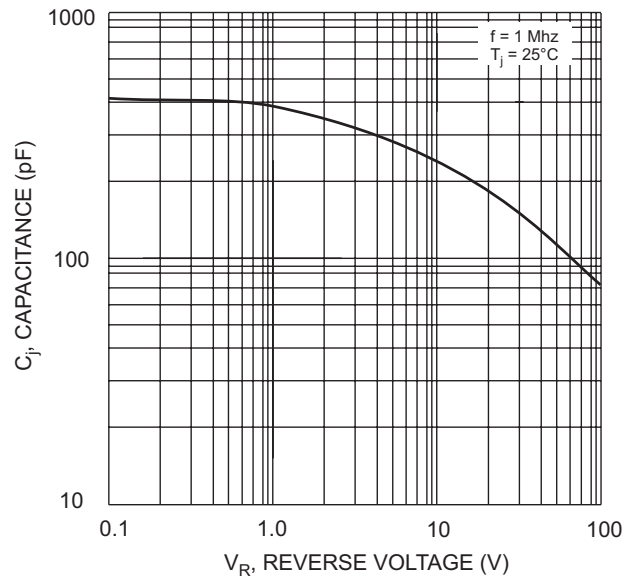
$T_C$ , CASE TEMPERATURE ( $^{\circ}C$ )  
Fig. 1 Forward Current Derating Curve



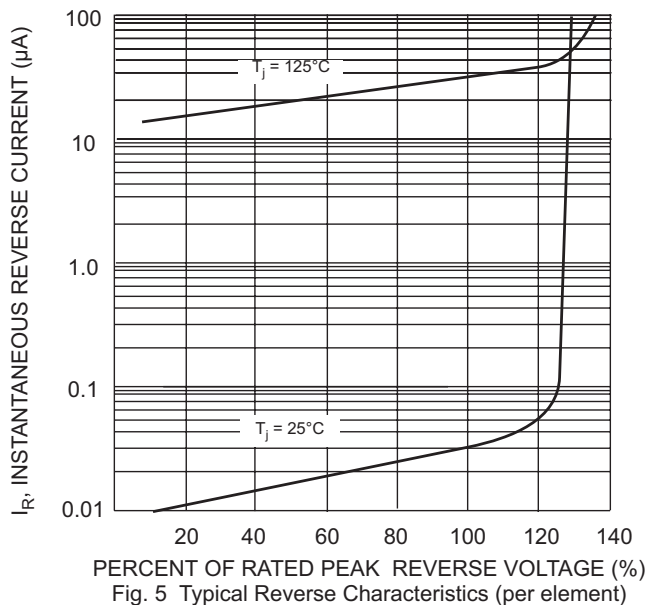
$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics (per element)



NUMBER OF CYCLES AT 60 Hz  
Fig. 3 Max Non-Repetitive Surge Current



$V_R$ , REVERSE VOLTAGE (V)  
Fig. 4 Typical Junction Capacitance (per element)



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)  
Fig. 5 Typical Reverse Characteristics (per element)