

SENSITRON
SEMICONDUCTOR

KBPC15, 25, 35/W -G SERIES
15, 25, 35A HIGH CURRENT BRIDGE RECTIFIER

Data sheet 1431, Rev.A

Green Products

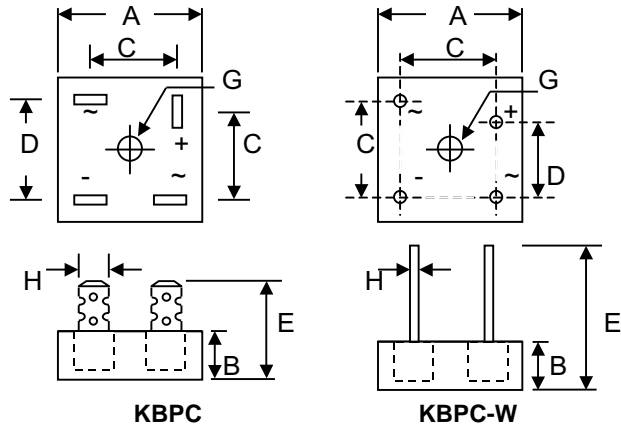
Features

- 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
- Green Products in Compliance with the RoHS Directive

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



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_A=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-G	-01/W-G	-02/W-G	-04/W-G	-06/W-G	-08/W-G	-10/W-G	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	V _{R(RMS)}	35	70	140	280	420	560	700	V
Average Rectifier Output Current @T _C = 60°C	KBPC15 KBPC25 KBPC35 I _O	15 25 35							A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave Superimposed on rated load (JEDEC Method)	KBPC15 KBPC25 KBPC35 I _{FSM}	300 400 400							A
Forward Voltage Drop (per element)	KBPC15 @I _F = 7.5A KBPC25 @I _F = 12.5A KBPC35 @I _F = 17.5A V _{FM}	1.2							V
Peak Reverse Current At Rated DC Blocking Voltage	@T _C = 25°C @T _C = 125°C I _{RM}	10 1.0							µA mA
I ² t Rating for Fusing (t < 8.3ms) (Note 1)	KBPC15 KBPC25 KBPC35 I ² t	373 373 664							A ² s

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

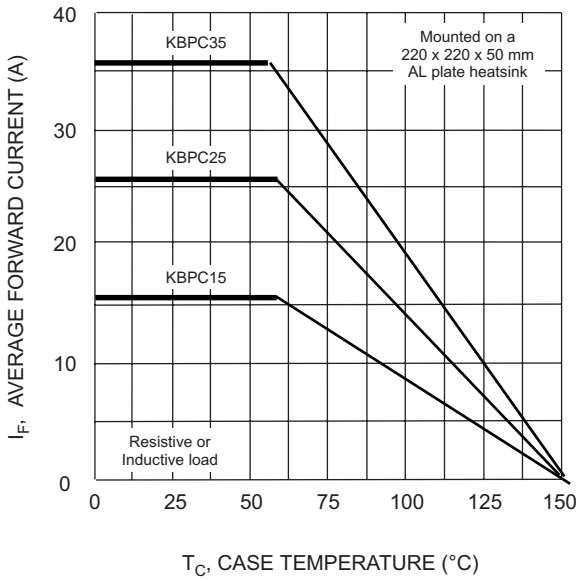
Typical Junction Capacitance (per element) (Note 2)	C_j	300	pF
Typical Thermal Resistance Junction to Case (per element) (Note 3)	$R_{\theta JC}$	6.3 3.8 2.7	K/W
RMS Isolation Voltage from Case to Lead	V_{ISO}	2500	V
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150	$^{\circ}\text{C}$

* Glass passivated forms are available upon request.

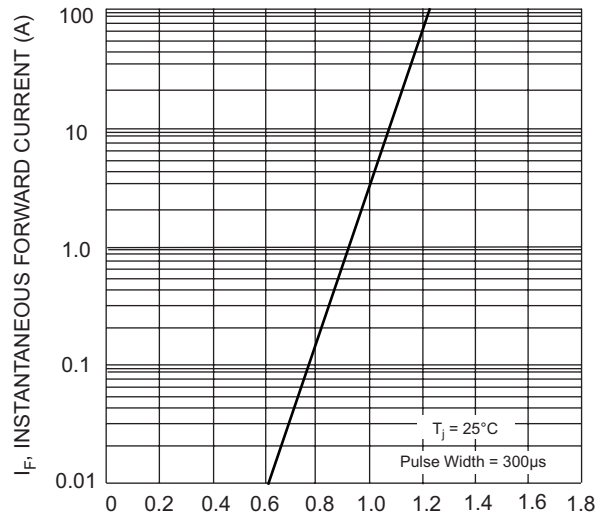
Note: 1. Measured at non-repetitive, for $t > 1\text{ms}$ and $< 8.3\text{ms}$.

2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

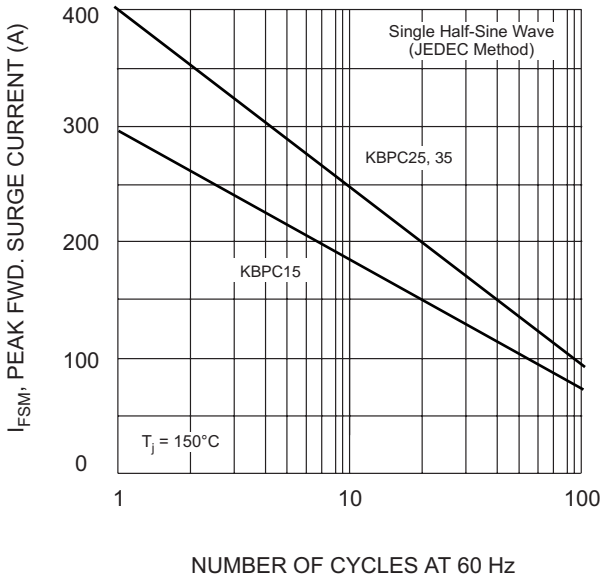
3. Thermal resistance junction to case mounted on heatsink.



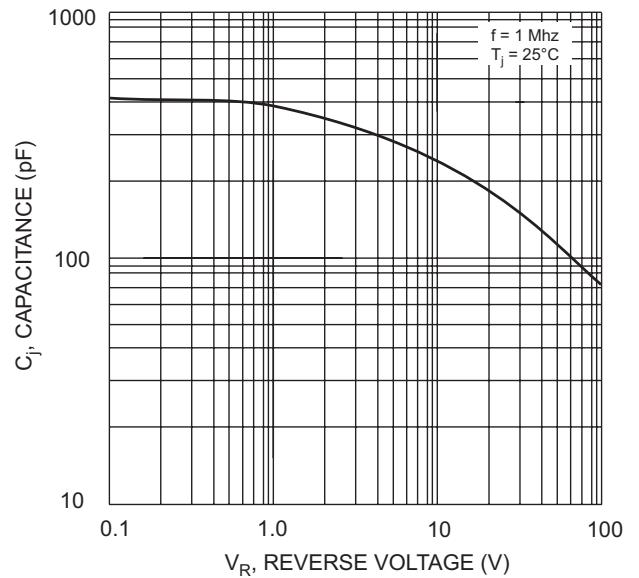
T_C , CASE TEMPERATURE ($^{\circ}C$)
Fig. 1 Forward Current Derating Curve



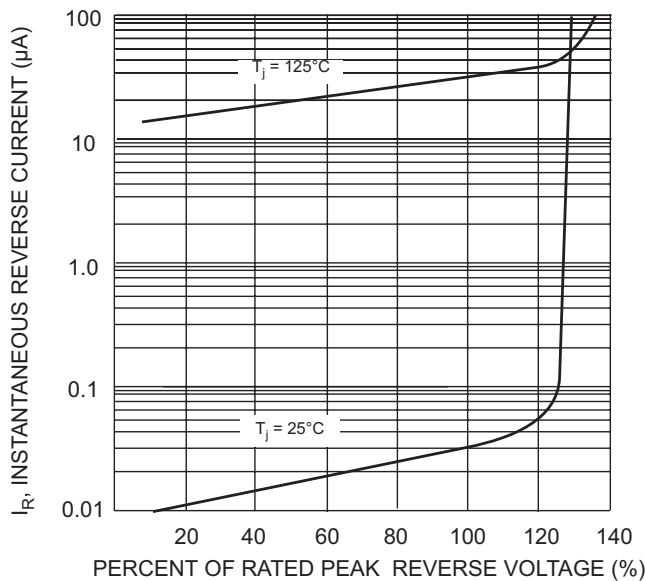
V_F , INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics (per element)



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)

DISCLAIMER:

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
- 3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.