

# KBPC40, 50/W SERIES

## 40, 50A HIGH CURRENT BRIDGE RECTIFIER

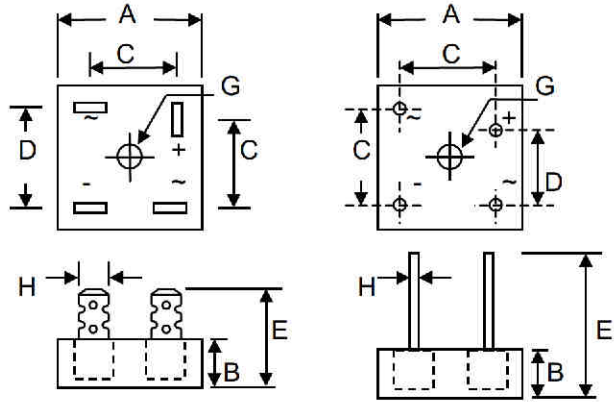
### Features

- 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 # E157705

### 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 #10 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   |
| A                   | 28.40                             | 28.70 | 28.40  | 28.70 |
| B                   | 10.97                             | 11.23 | 10.97  | 11.23 |
| C                   | 15.70                             | 16.70 | 17.10  | 19.10 |
| D                   | 17.50                             | 18.50 | 10.90  | 11.90 |
| E                   | 22.86                             | 25.40 | 30.50  | —     |
| G                   | Hole for #10 screw, 5.08Ø Nominal |       |        |       |
| H                   | 6.35 Typical                      |       | 0.97Ø  | 1.07Ø |
| All Dimension in mm |                                   |       |        |       |

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

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

|  |                 |             |                    |
|--|-----------------|-------------|--------------------|
| Typical Junction Capacitance (per element)<br>(Note 1)                                 | $C_j$           | 300         | pF                 |
| Typical Thermal Resistance Junction to Case (per element) (Note 2)<br>KBPC40<br>KBPC50 | $R_{\theta JC}$ | 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.

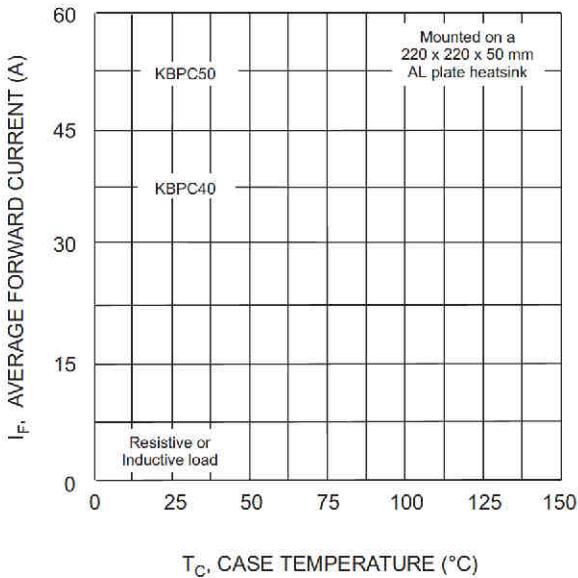


Fig. 1 Forward Current Derating Curve

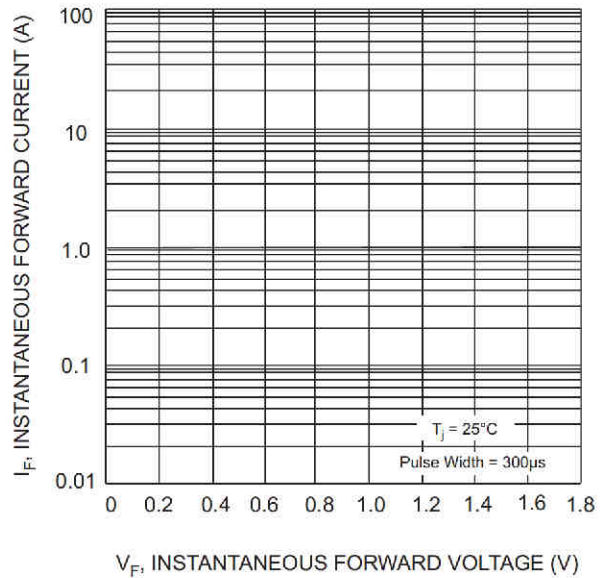


Fig. 2 Typical Forward Characteristics (per element)

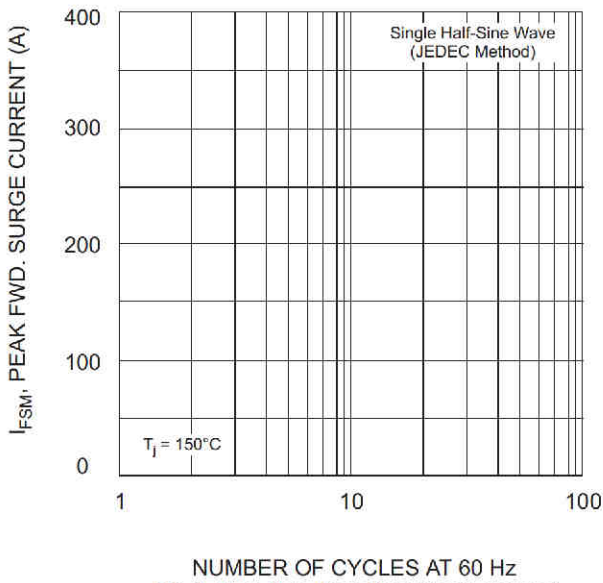


Fig. 3 Max Non-Repetitive Surge Current

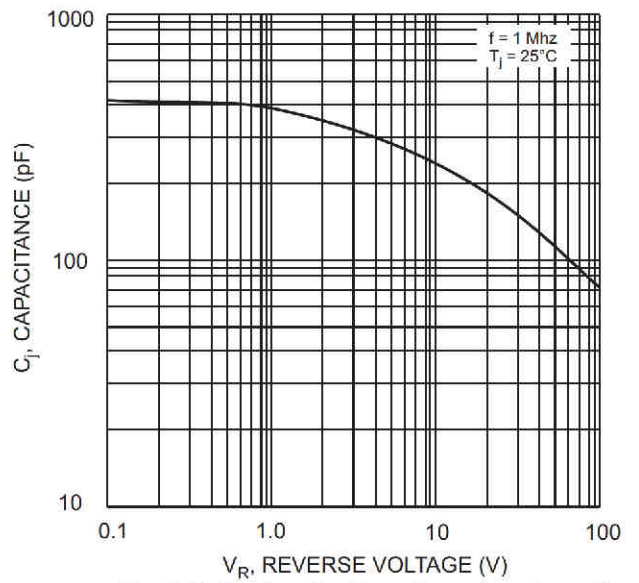


Fig. 4 Typical Junction Capacitance (per element)

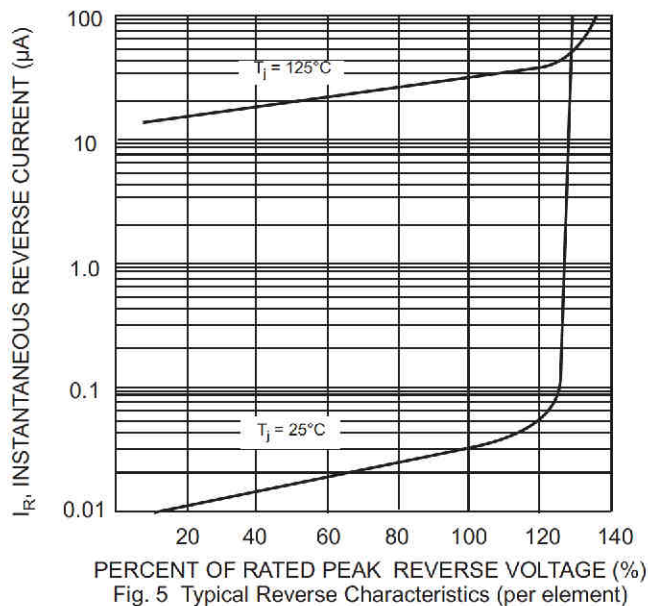


Fig. 5 Typical Reverse Characteristics (per element)

## ORDERING INFORMATION

| Product No. | Package Type  | Shipping Quantity |
|-------------|---------------|-------------------|
| KBPCxx00    | Square Bridge | 50 Units/Box      |
| KBPCxx00W   | Square Bridge | 50 Units/Box      |
| KBPCxx01    | Square Bridge | 50 Units/Box      |
| KBPCxx01W   | Square Bridge | 50 Units/Box      |
| KBPCxx02    | Square Bridge | 50 Units/Box      |
| KBPCxx02W   | Square Bridge | 50 Units/Box      |
| KBPCxx04    | Square Bridge | 50 Units/Box      |
| KBPCxx04W   | Square Bridge | 50 Units/Box      |
| KBPCxx06    | Square Bridge | 50 Units/Box      |
| KBPCxx06W   | Square Bridge | 50 Units/Box      |
| KBPCxx08    | Square Bridge | 50 Units/Box      |
| KBPCxx08W   | Square Bridge | 50 Units/Box      |
| KBPCxx10    | Square Bridge | 50 Units/Box      |
| KBPCxx10W   | Square Bridge | 50 Units/Box      |

Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.