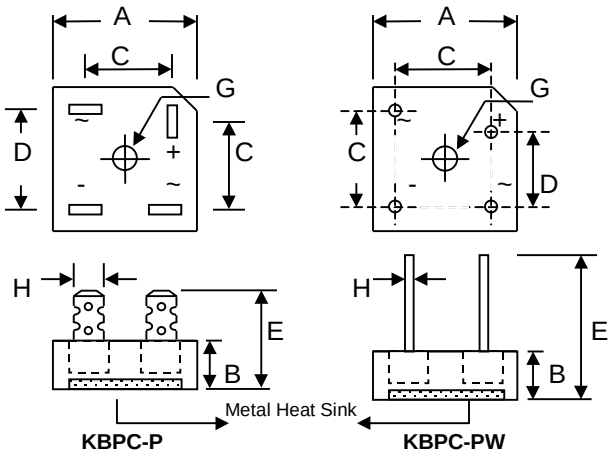
# KBPC40, 50P/W SERIES

## 40, 50A HIGH CURRENT BRIDGE RECTIFIER

## Features

- Diffused Junction
- Low Reverse Leakage Current
- Low Power Loss, High Efficiency
- Electrically Isolated Epoxy Case for Maximum Heat Dissipation
- Case to Terminal Isolation Voltage 2500V
- UL Recognized File # E157705




## Mechanical Data

- Case: Epoxy Case with Heat Sink Internally Mounted in the Bridge Encapsulation
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Symbols Marked on Case
- Mounting: Through Hole for #10 Screw
- Weight: KBPC-P 24 grams (approx.)
  KBPC-PW 21 grams (approx.)
- Marking: Type Number

"W" Suffix Designates Wire Leads
No Suffix Designates Faston Terminals
*All Models are Available on B(Height)=7.9mm Max. Epoxy Case

| | KBPC-P | | KBPC-PW | |
|---|---|---|---|---|
| **Dim** | **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 @$T_A$=25°C unless otherwise specified

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

| Characteristics | Symbol | -00P/W | -01P/W | -02P/W | -04P/W | -06P/W | -08P/W | -10P/W | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 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 KBPC40<br>@$T_C$ = 55°C KBPC50 | $I_O$ | 40<br>50 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave KBPC40<br>Superimposed on rated load KBPC50<br>(JEDEC Method) | $I_{FSM}$ | 400<br>400 | | | | | | | A |
| Forward Voltage Drop KBPC40 @$I_F$ = 20A<br>(per element) KBPC50 @$I_F$ = 25A | $V_{FM}$ | 1.2 | | | | | | | V |
| Peark Reverse Current @$T_C$ = 25°C<br>At Rated DC Blocking Voltage @$T_C$ = 125°C | $I_{RM}$ | 10<br>1.0 | | | | | | | µA<br>mA |


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## Maximum Ratings and Electrical Characteristics @$T_A$=25°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) KBPC40 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 +125 | °C |

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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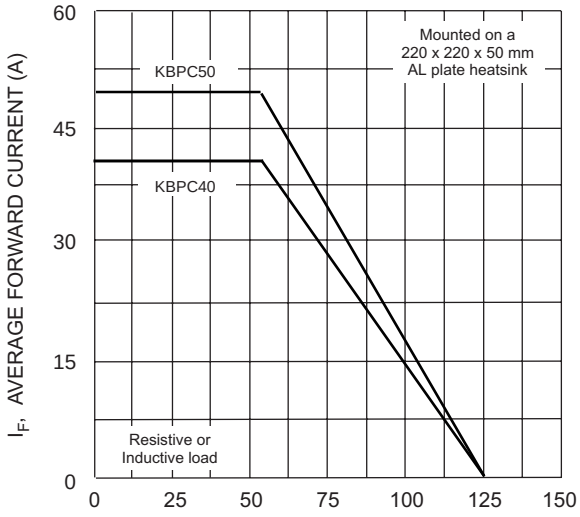



Fig. 1 Forward. Current Derating Curve

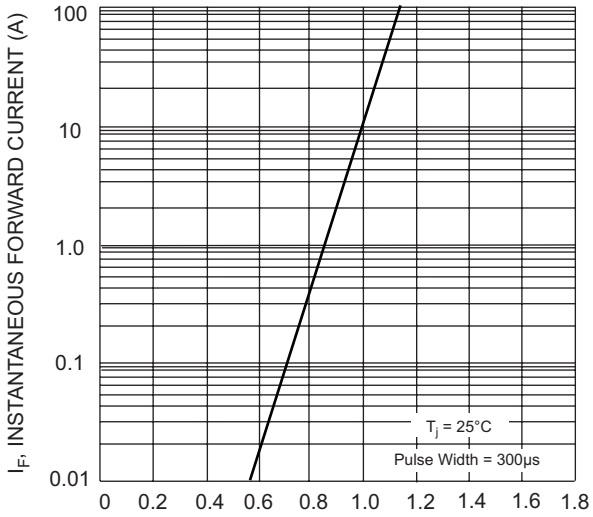



Fig. 2 Typical Forward Characteristics (per element)

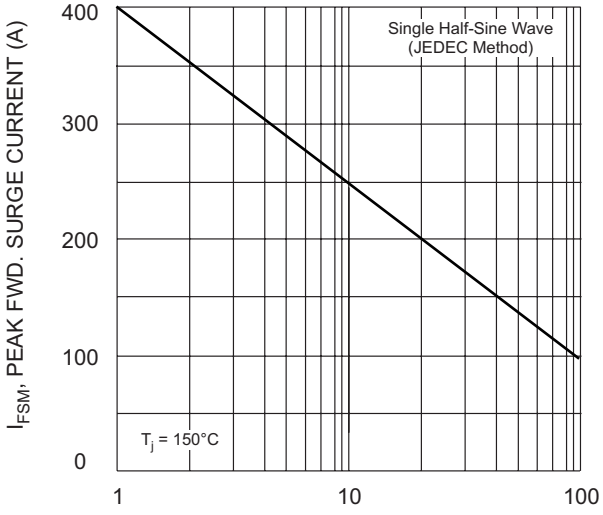



Fig. 3 Max Non-Repetitive Surge Current

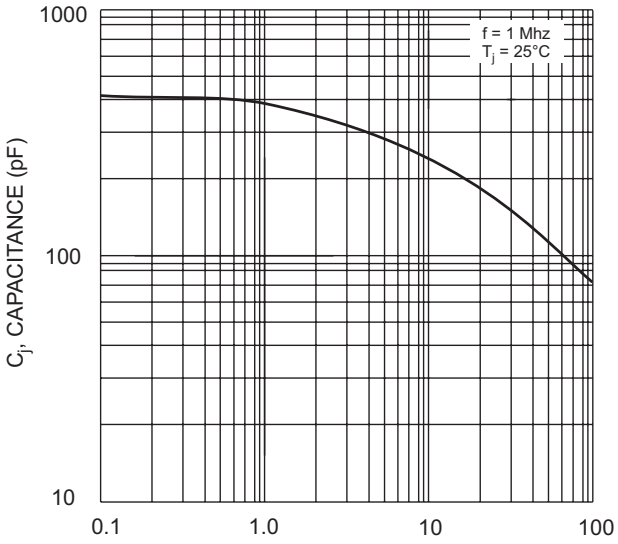



Fig. 4 Typical Junction Capacitance (per element)

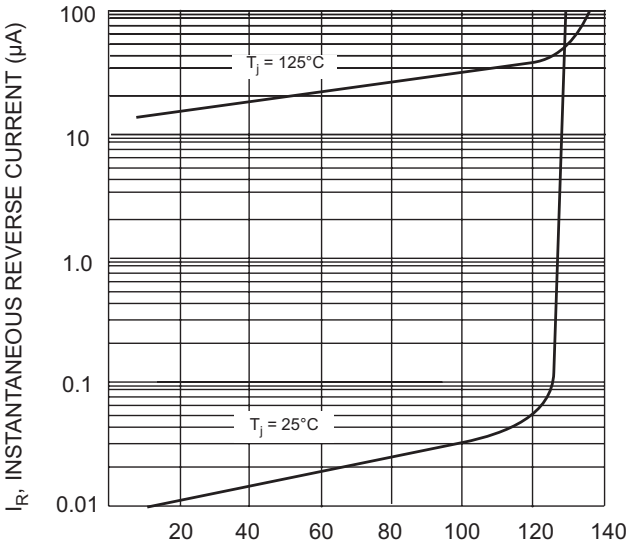



Fig. 5 Typical Reverse Characteristics (per element)

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## ORDERING INFORMATION

| Product No. | Package Type | Shipping Quantity |
|---|---|---|
| KBPCxx00P | Square Bridge | 50 Units/Box |
| KBPCxx00PW | Square Bridge | 50 Units/Box |
| KBPCxx01P | Square Bridge | 50 Units/Box |
| KBPCxx01PW | Square Bridge | 50 Units/Box |
| KBPCxx02P | Square Bridge | 50 Units/Box |
| KBPCxx02PW | Square Bridge | 50 Units/Box |
| KBPCxx04P | Square Bridge | 50 Units/Box |
| KBPCxx04PW | Square Bridge | 50 Units/Box |
| KBPCxx06P | Square Bridge | 50 Units/Box |
| KBPCxx06PW | Square Bridge | 50 Units/Box |
| KBPCxx08P | Square Bridge | 50 Units/Box |
| KBPCxx08PW | Square Bridge | 50 Units/Box |
| KBPCxx10P | Square Bridge | 50 Units/Box |
| KBPCxx10PW | Square Bridge | 50 Units/Box |

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

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**WARNING**: DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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