


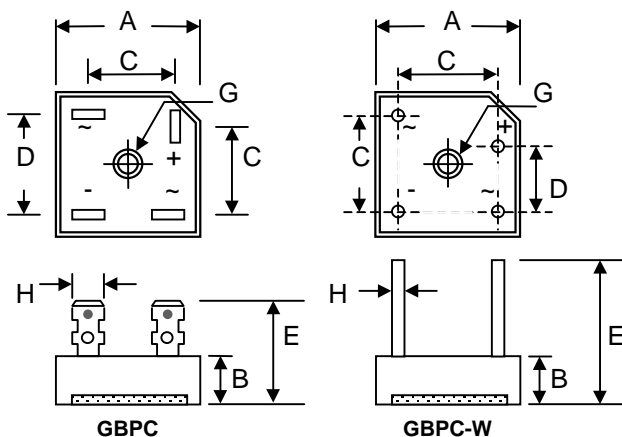
## 40A GLASS PASSIVATED HIGH CURRENT SINGLE-PHASE BRIDGE RECTIFIER

### Features

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

### Mechanical Data

- Case: Molded Plastic with Heatsink, Available in Both Low Profile and Standard Case
- Terminals: Plated Faston Lugs or Wire Leads, Add "W" Suffix to Indicate Wire Leads
- Polarity: As Marked on Case
- Mounting: Through Hole with #10 Screw
- Mounting Torque: 23 cm·kg (20 in·lbs) Max.
- Weight: 21 grams (GBPC); 18 grams (GBPC-W)
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**



Dim	GBPC Low Profile / Standard		GBPC-W Low Profile / Standard	
	Min	Max	Min	Max
A	28.40	28.70	28.40	28.70
B	7.50 / 10.97	8.50 / 11.23	7.50 / 10.97	8.50 / 11.23
C	15.70	16.70	17.10	19.10
D	17.50	18.50	10.90	11.90
E	19.08 / 22.86	21.58 / 25.40	30.50	—
G	Hole for #10 screw, 5.08Ø Nominal			
H	6.35 Typical		0.97Ø	1.07Ø

All Dimension in mm

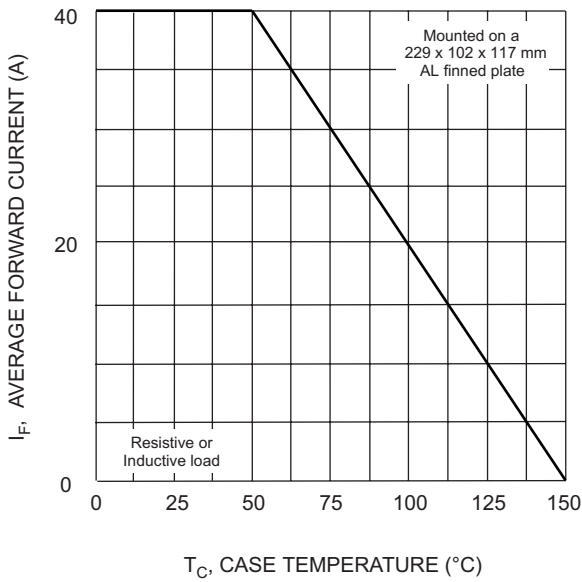
### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

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

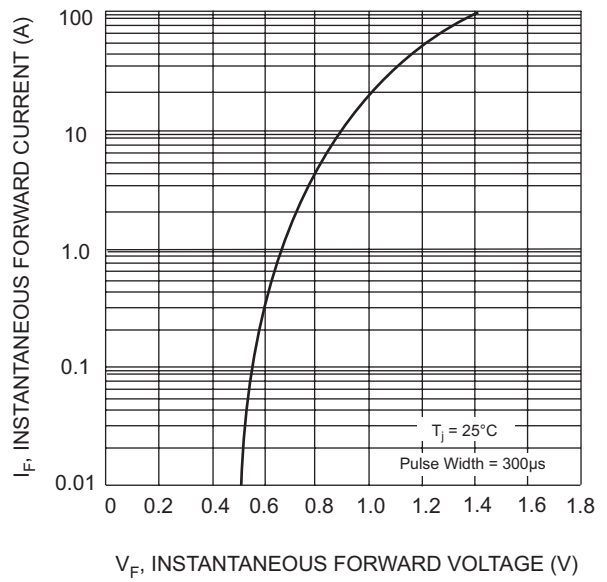
Characteristic	Symbol	GBPC40										Unit
		00	01	02	04	06	08	10	12	14	16	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	50	100	200	400	600	800	1000	1200	1400	1600	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	840	980	1120	V
Average Rectified Output Current @ $T_C = 50^\circ\text{C}$	$I_O$	40										A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	400										A
Forward Voltage per leg @ $I_F = 20\text{A}$	$V_{FM}$	1.1										V
Peak Reverse Current @ $T_C = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_C = 125^\circ\text{C}$	$I_{RM}$	5.0 500										$\mu\text{A}$
$I^2t$ Rating for Fusing ( $t < 8.3\text{ms}$ )	$I^2t$	660										$\text{A}^2\text{s}$
Typical Junction Capacitance (Note 1)	$C_j$	400										pF
Typical Thermal Resistance per leg (Note 2)	$R_{\theta JC}$	1.4										$^\circ\text{C}/\text{W}$
RMS Isolation Voltage from Case to Leads	$V_{ISO}$	2500										V
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +150										$^\circ\text{C}$

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

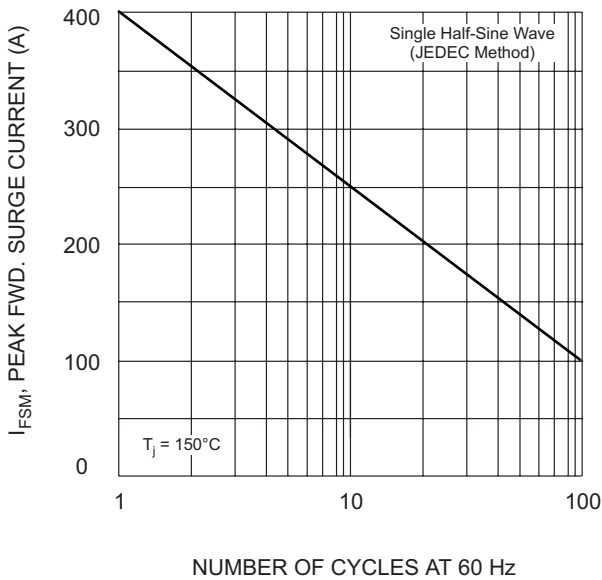
2. Mounted on 229 x 102 x 117mm Al. finned plate.



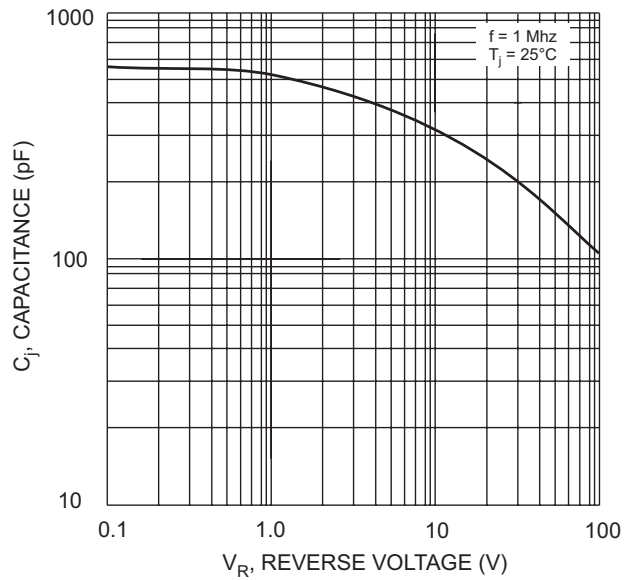
$T_C$ , CASE TEMPERATURE (°C)  
Fig. 1 Forward Current Derating Curve



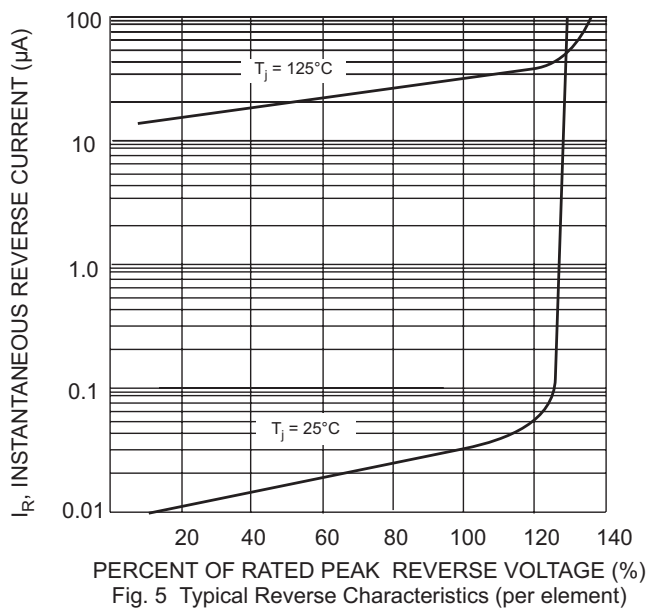
$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics (per element)



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

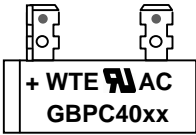
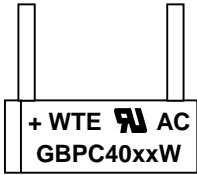


$V_R$ , REVERSE VOLTAGE (V)  
Fig. 4 Typical Junction Capacitance (per element)



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

## MARKING INFORMATION

<b>GBPC</b>    WTE = Manufacturer's Logo GBPC40xx = Device Number xx = 00, 01, 02, 04, 06, 08, 10, 12, 14 or 16 Polarity = As Marked on Body	<b>GBPC-W</b>    WTE = Manufacturer's Logo GBPC40xxW = Device Number xx = 00, 01, 02, 04, 06, 08, 10, 12, 14 or 16 Polarity = As Marked on Body
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## PACKAGING INFORMATION

<b>BULK</b>					
Case Style	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
<b>GBPC</b>	195 x 195 x 40	50	405 x 205 x 240	500	12.0
<b>GBPC-W</b>	195 x 195 x 40	50	405 x 205 x 240	500	11.0

**Note:** 1. Paper box, white or brown color.

## ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
GBPC4000	Square Bridge	50 Units/Box
GBPC4000W	Square Bridge	50 Units/Box
GBPC4001	Square Bridge	50 Units/Box
GBPC4001W	Square Bridge	50 Units/Box
GBPC4002	Square Bridge	50 Units/Box
GBPC4002W	Square Bridge	50 Units/Box
GBPC4004	Square Bridge	50 Units/Box
GBPC4004W	Square Bridge	50 Units/Box
GBPC4006	Square Bridge	50 Units/Box
GBPC4006W	Square Bridge	50 Units/Box
GBPC4008	Square Bridge	50 Units/Box
GBPC4008W	Square Bridge	50 Units/Box
GBPC4010	Square Bridge	50 Units/Box
GBPC4010W	Square Bridge	50 Units/Box
GBPC4012	Square Bridge	50 Units/Box
GBPC4012W	Square Bridge	50 Units/Box
GBPC4014	Square Bridge	50 Units/Box
GBPC4014W	Square Bridge	50 Units/Box
GBPC4016	Square Bridge	50 Units/Box
GBPC4016W	Square Bridge	50 Units/Box

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, GBPC4000-LF.**

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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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