

# GBPC 12, 15, 25, 35 SERIES Bridge Rectifiers (Glass Passivated)

## Features

- Integrally molded heat-sink provided very low thermal resistance for maximum heat dissipation.
- Surge Overload Ratings from 300 A to 400 A.
- Isolated voltage from case to lead over 2500 V.
- UL certified, UL #E258596
- Terminals Finish Material - Silver (Solderable per MIL-STD-202, Method 208 for the wire type GBPC-W package)  
- Nickel for GBPC package.

## Suffix “W”

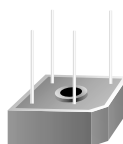
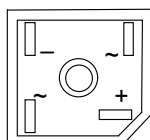
- Wire Lead Structure

## Suffix “M”

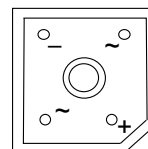
- Terminal Location Face to Face



GBPC



GBPC-W



## Ordering Informations

Part Number	Marking	Package	Packing Method
GBPC35005W	GBPC35005W	GBPC-W 4L	Bulk
GBPC35005	GBPC35005	GBPC 4L	Bulk

## Absolute Maximum Ratings<sup>(1)</sup>

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter		Value							Units
			005	01	02	04	06	08	10	
V <sub>RRM</sub>	Maximum Repetitive Reverse Voltage		50	100	200	400	600	800	1000	V
V <sub>RMS</sub>	Maximum RMS Bridge Input Voltage		35	70	140	280	420	560	700	V
V <sub>R</sub>	DC Reverse Voltage (Rated V <sub>R</sub> )		50	100	200	400	600	800	1000	V
I <sub>F(AV)</sub>	Average Rectified Forward Current at T <sub>C</sub> = 55°C	GBPC12	12							A
		GBPC15	15							
		GBPC25	25							
		GBPC35	35							
I <sub>FSM</sub>	Non-Repetitive Peak Forward Surge Current	GBPC12, 15, 25	300							A
	8.3ms Single Half-Sine-Wave	GBPC35	400							A
T <sub>STG</sub>	Storage Temperature Range		-55 to +150							°C
T <sub>J</sub>	Operating Junction Temperature		-55 to +150							°C

### Note:

1. These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

## Thermal Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	83.3	W
$R_{\theta JC}$	Thermal Resistance, Junction to Case <sup>(2)</sup>	1.5	$^\circ\text{C/W}$

### Note:

2. With Heatsink.

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Test Conditions		Value	Units
$V_F$	Forward Voltage Drop, per bridge	6.0 A	GBPC12	1.1 (Max)	V
		7.5 A	GBPC15		
		12.5 A	GBPC25		
		17.5 A	GBPC35		
$I_R$	Reverse Current, per element at Rated $V_R$	$T_A = 25^\circ\text{C}$		5.0 (Max)	$\mu\text{A}$
		$T_A = 125^\circ\text{C}$		500 (Max)	$\mu\text{A}$
$I^2t$	Rating for Fusing $t < 8.35$ ms	GBPC12, 15, 25		375	$\text{A}^2\text{Sec}$
		GBPC35		660	$\text{A}^2\text{Sec}$
$C_T$	Total Capacitance, per leg $V_R = 4.0$ V $f = 1.0$ MHz	GBPC12, 15, 25		180	pF
		GBPC35		200	pF

## Typical Performance Characteristics

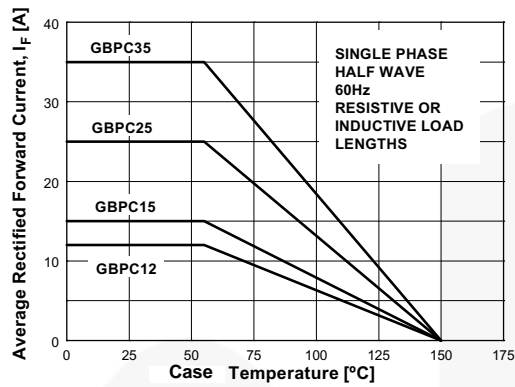


Figure 1. Forward Current Derating Curve

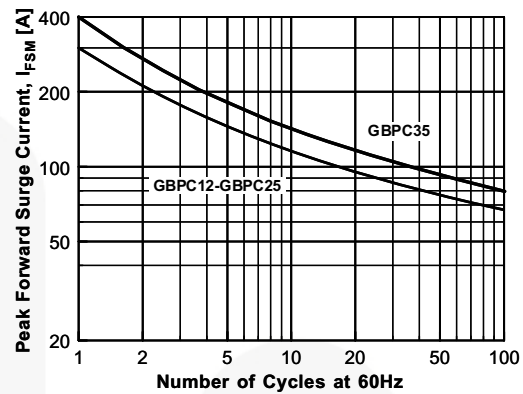


Figure 2. Non-Repetitive Surge Current

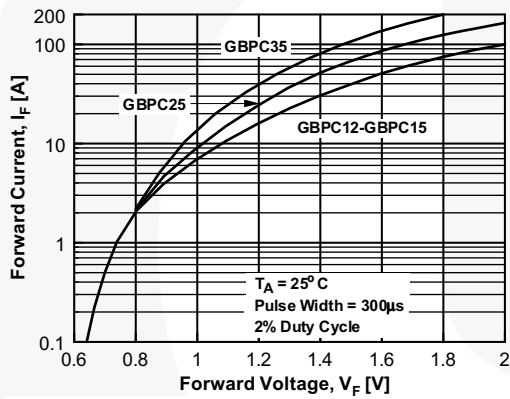


Figure 3. Forward Voltage Characteristics

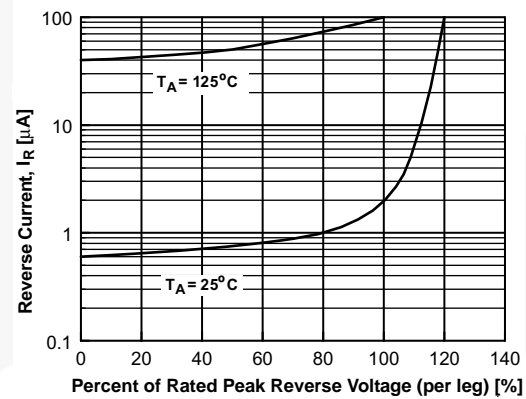
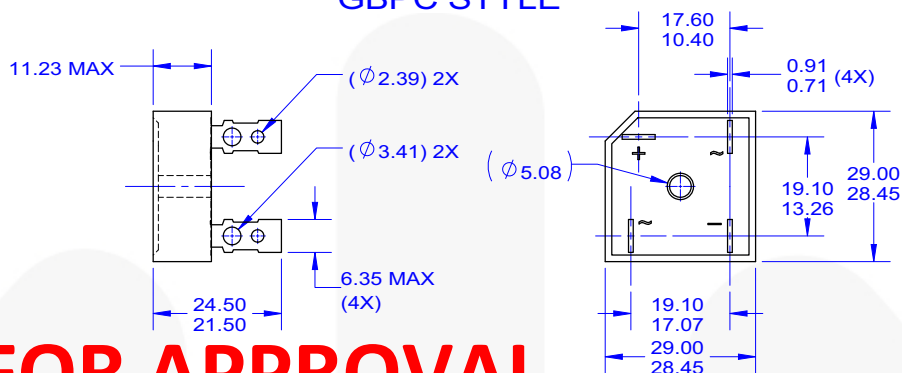


Figure 4. Reverse Current vs. Reverse Voltage

## Physical Dimensions

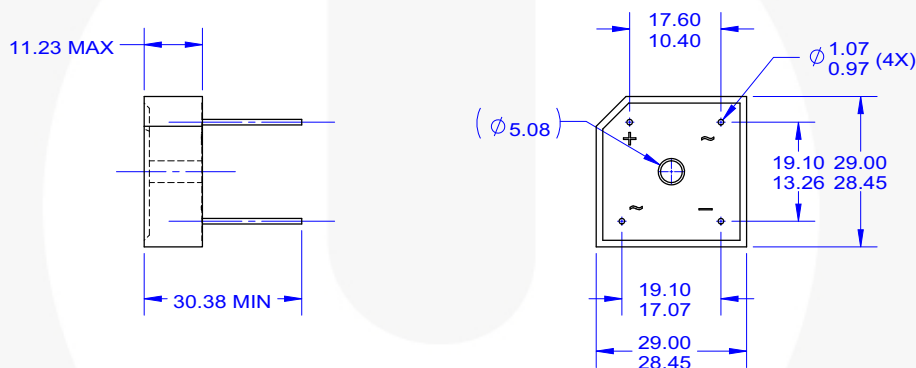
## GBPC

## GBPC STYLE

**FOR APPROVAL**

BY: BOBOY MALDO

## GBPC-W STYLE



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- B. ALL DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
- E. DIMENSION AND TOLERANCE AS PER ASME Y14.5-1994.
- F. DRAWING FILE NAME: MKT-GBPC04 REV2

**Figure 5. 4-TERMINAL, COMBINATION GBPC AND GBPC-W (ACTIVE)**

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