

15A, 25A, 35A, 50V - 1000V Standard Bridge Rectifier

FEATURES

- Glass passivated chip junction
- Integrally molded heatsink provide very low thermal resistance for maximum heat dissipation
- Typical I_R less than 0.2μA
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant

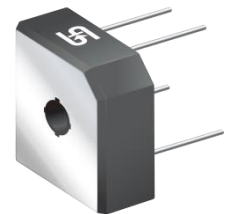
APPLICATIONS

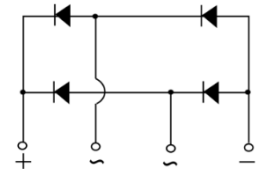
- Switching mode power supply (SMPS)
- AC to DC converter

MECHANICAL DATA

- Case: GBPC
GBPC-W: Wire structure
GBPC40-M: Terminal cathode parallel to anode
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Mounting torque: 20 in-lbs maximum
- Polarity: As marked
- Weight: 16.95g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	15, 25, 35	A
V_{RRM}	50 - 1000	V
I_{FSM}	300, 400	A
$T_{J\ MAX}$	150	°C
Package	GBPC	
Configuration	Quad	


GBPC

GBPC-W

GBPC-M


ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER		SYMBOL	GBPC15, 25, 35							UNIT
			005	01	02	04	06	08	10	
Repetitive peak reverse voltage		V_{RRM}	50	100	200	400	600	800	1000	V
Reverse voltage, total rms value		$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Forward current	GBPC15	I_F	15							A
	GBPC25		25							A
	GBPC35		35							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	GBPC15	I_{FSM}	300							A
	GBPC25		400							A
	GBPC35		400							A
Rating for fusing ($t < 8.3\text{ms}$)	GBPC15	I^2t	373							A ² s
	GBPC25		664							A ² s
	GBPC35		664							A ² s
Junction temperature		T_J	- 55 to +150							°C
Storage temperature		T_{STG}	- 55 to +150							°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-case thermal resistance	$R_{\theta JC}$	1.5	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	GBPC15 $I_F = 7.5\text{A}, T_J = 25^\circ\text{C}$	V_F	-	1.1	V
	GBPC25 $I_F = 12.5\text{A}, T_J = 25^\circ\text{C}$		-	1.1	V
	GBPC35 $I_F = 17.5\text{A}, T_J = 25^\circ\text{C}$		-	1.1	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	5	μA

Notes:

- Pulse test with $PW = 0.3\text{ms}$
- Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION

ORDERING CODE ⁽¹⁾	PACKAGE	PACKING
GBPC*x	GBPC	50 / Tray
GBPC*xM	GBPC-M	50 / Tray
GBPC*xW	GBPC-W	50 / Tray

Notes:

- "*" defines current from 15A (GBPC15x/GBPC15xM/GBPC15xW) to 35A (GBPC35x/GBPC35xM/GBPC35xW),
"x" defines voltage from 50V(GBPC*005/GBPC*005M/GBPC*005W) to 1000V(GBPC*10/GBPC*10M/
GBPC*10W)

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

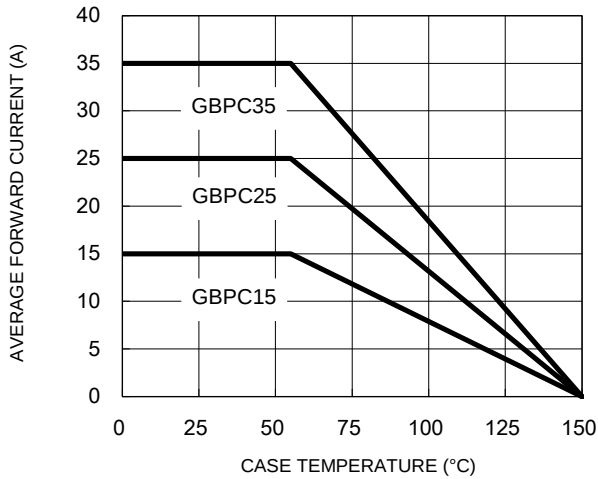


Fig.2 Typical Junction Capacitance

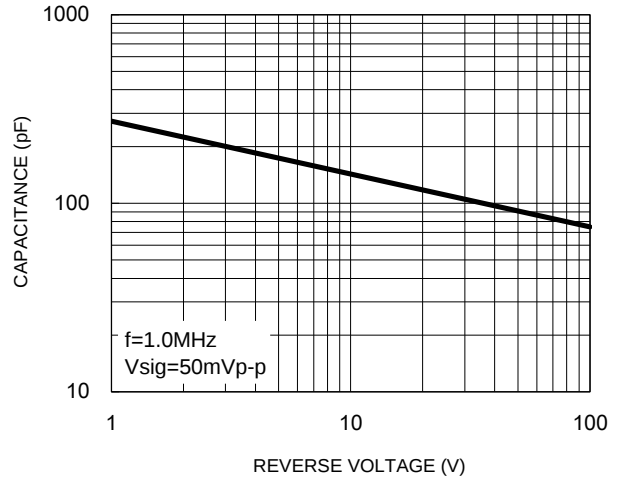


Fig.3 Typical Reverse Characteristics

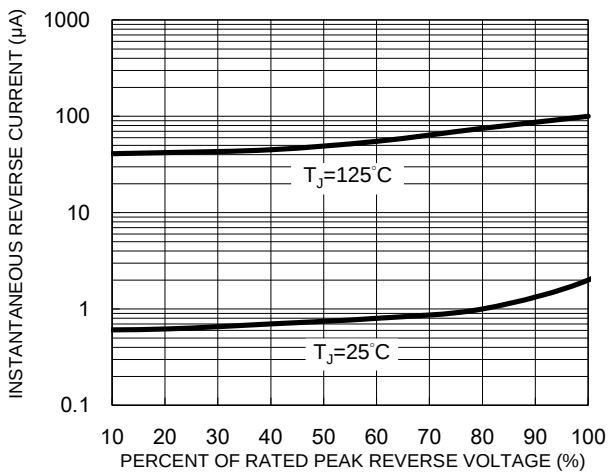


Fig.4 Typical Forward Characteristics

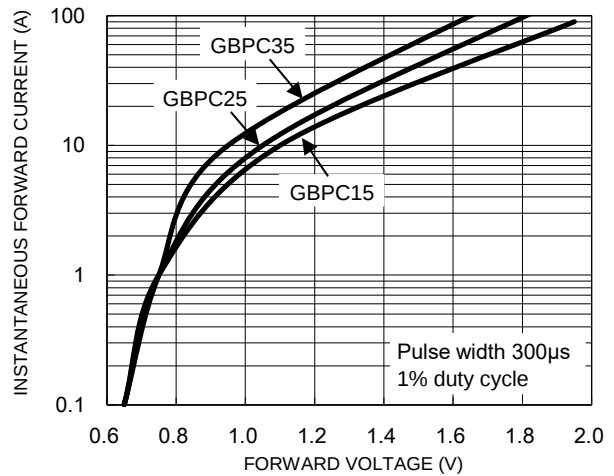
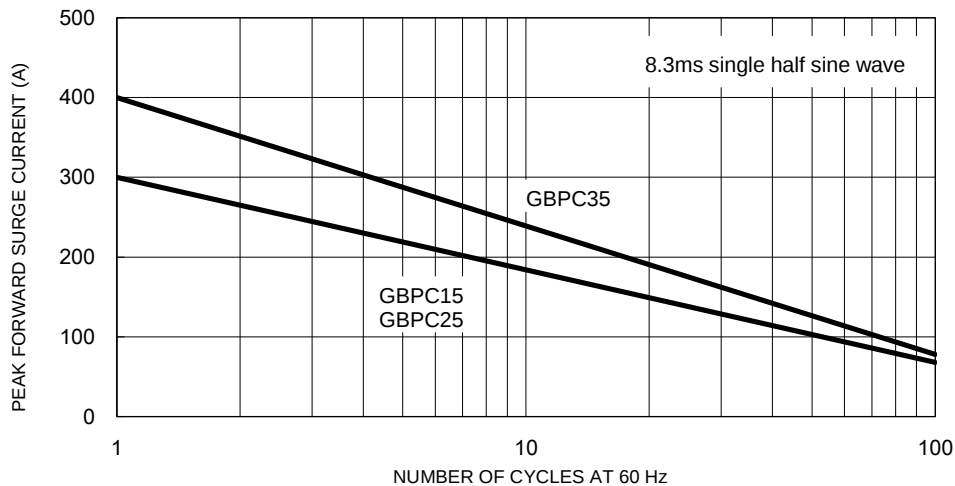
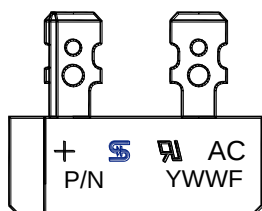
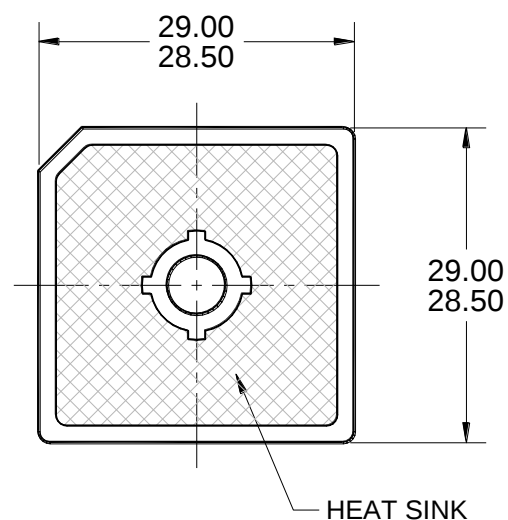
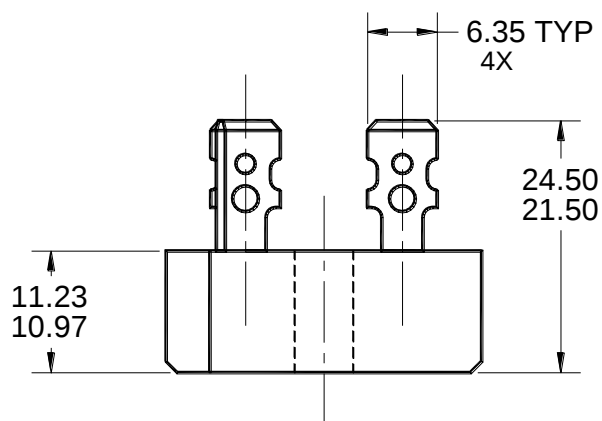
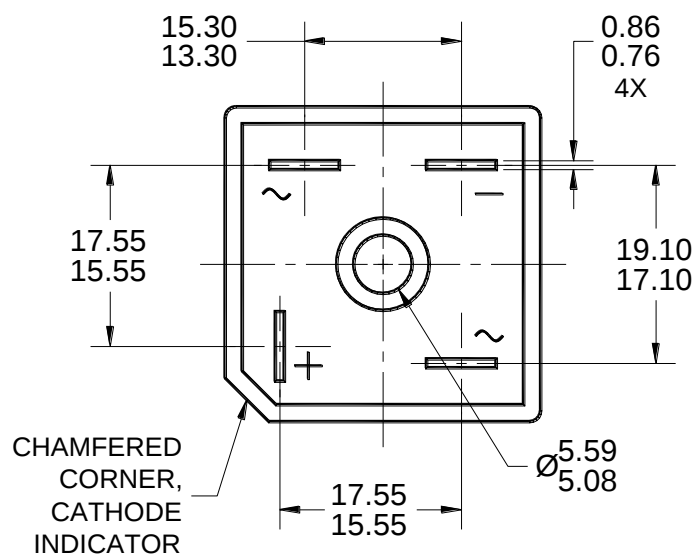


Fig.5 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS

GBPC



MARKING DIAGRAM

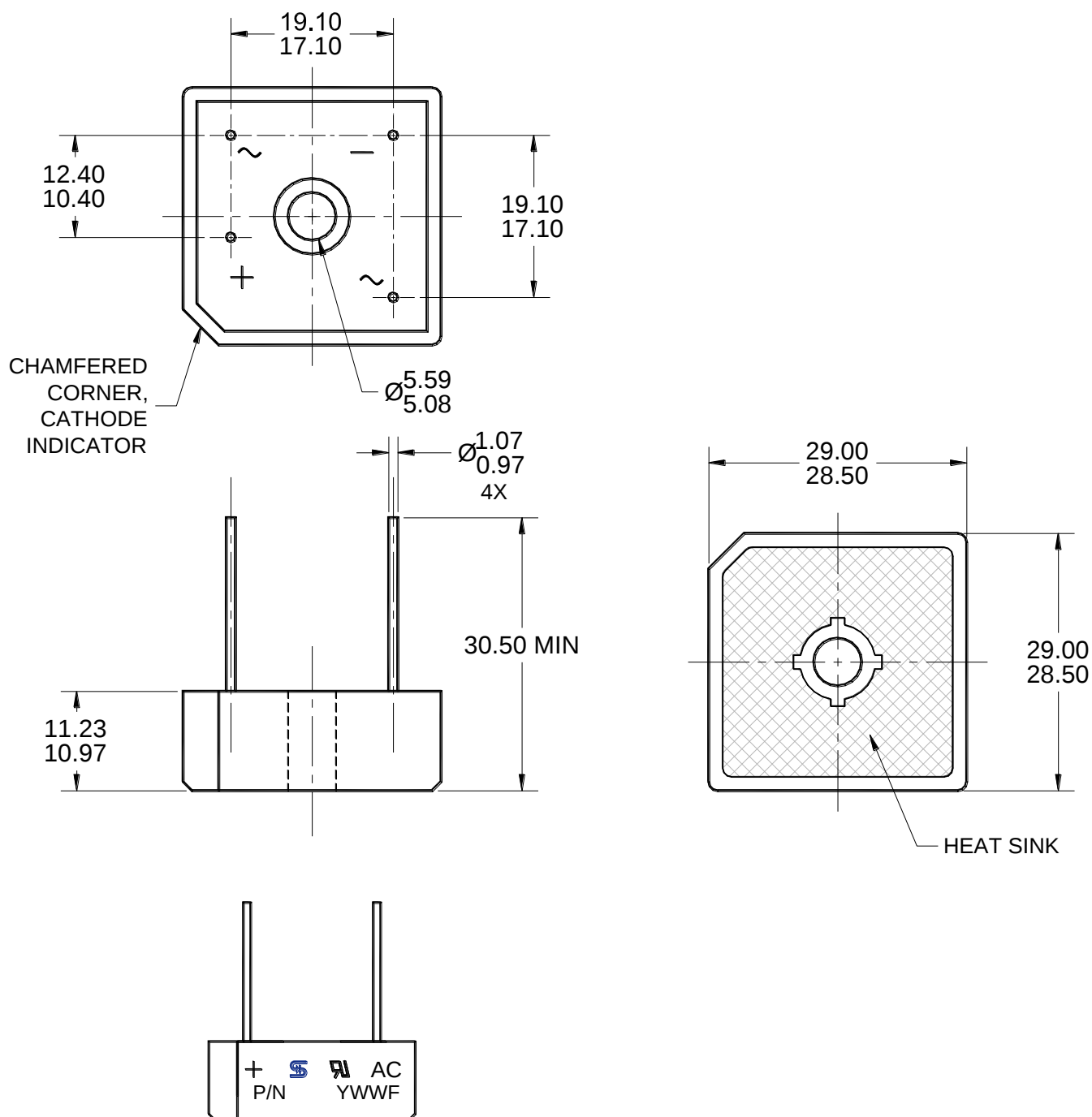
P/N = MARKING CODE
YWWF = DATE CODE
F = FACTORY CODE

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. DWG NO. REF: HQ2SD07-GBPC-054 REV A.

PACKAGE OUTLINE DIMENSIONS

GBPC-W



MARKING DIAGRAM

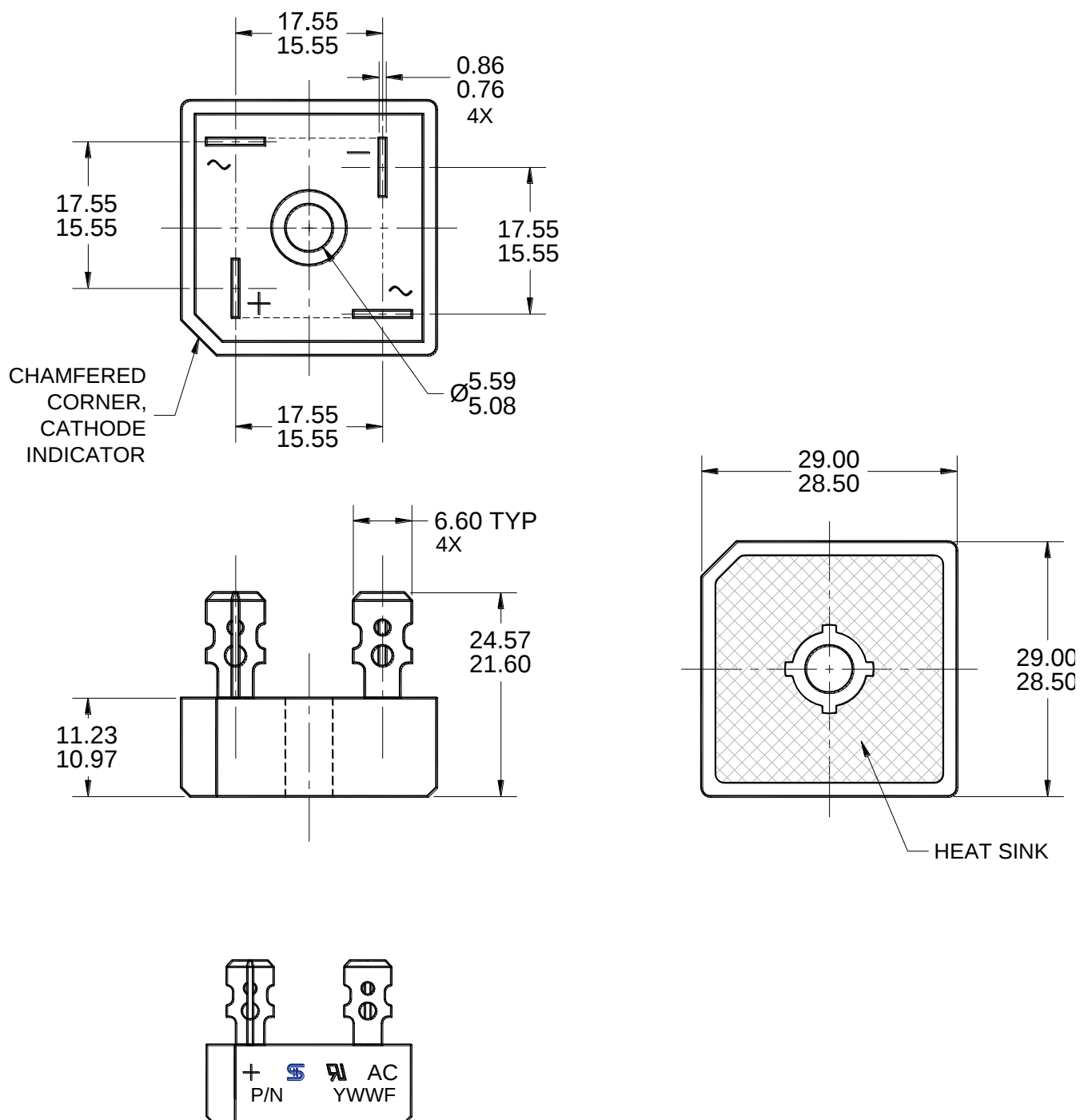
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PACKAGE OUTLINE DIMENSIONS

GBPC-M



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