

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

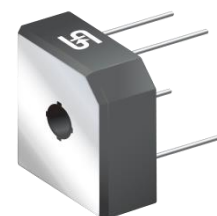
APPLICATIONS

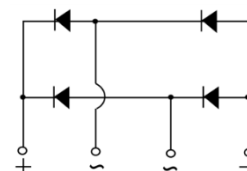
- Switching mode power supply (SMPS)
- AC to DC converter

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	005	01	02	04	06	08	10	UNIT
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:

1. Pulse test with $PW = 0.3\text{ms}$
2. 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:

1. "*" 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

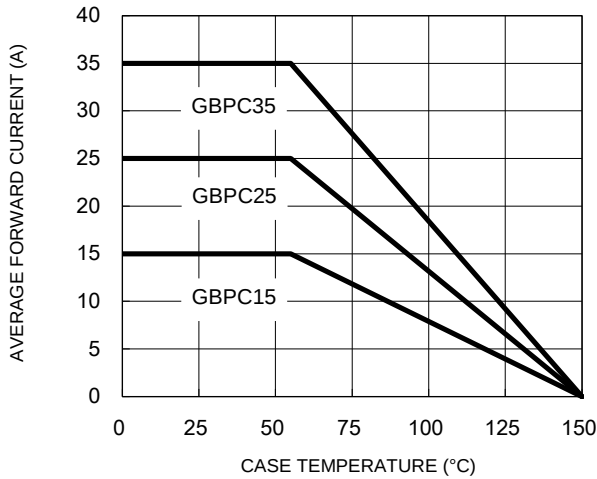


Fig.2 Typical Junction Capacitance

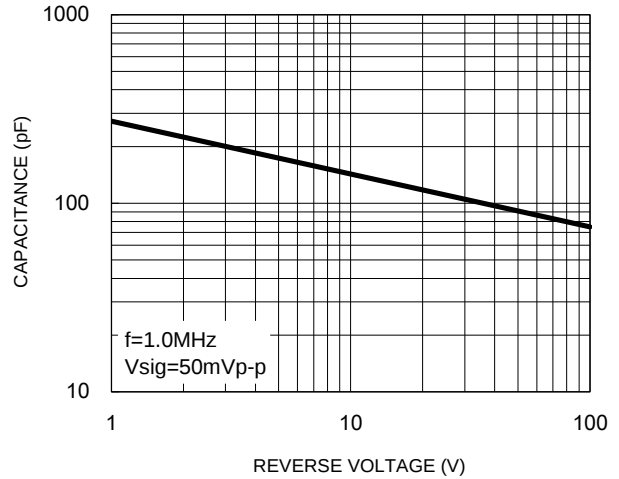


Fig.3 Typical Reverse Characteristics

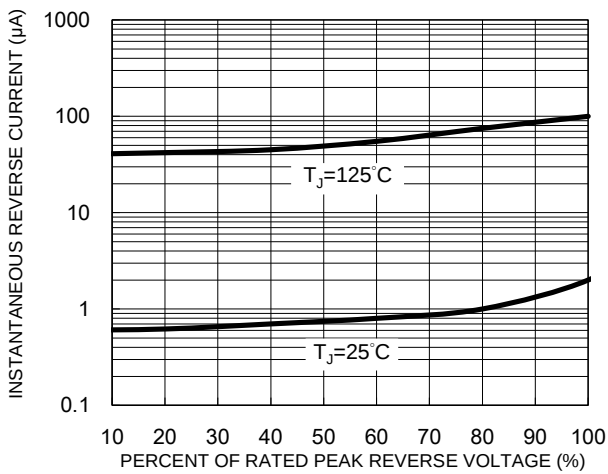


Fig.4 Typical Forward Characteristics

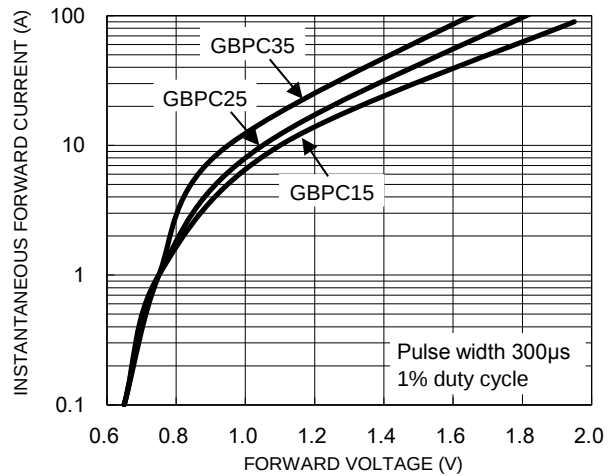
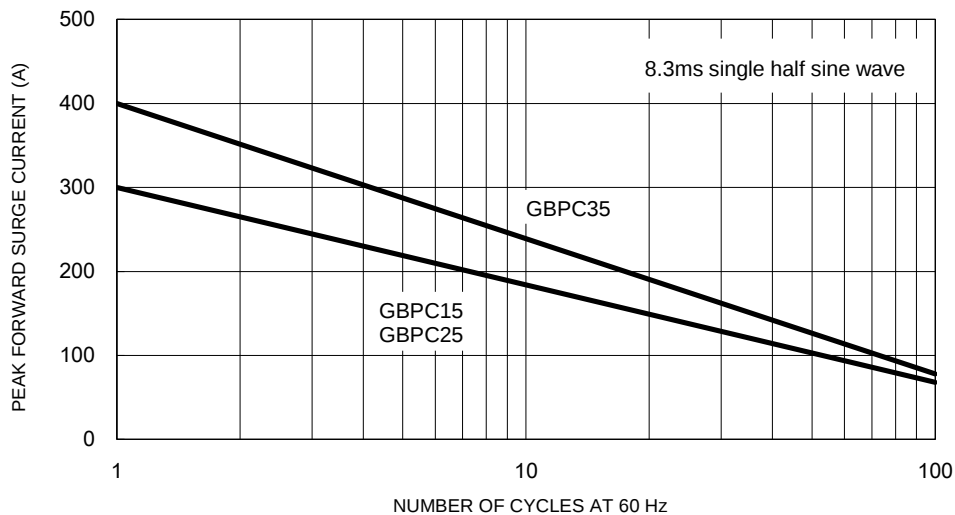
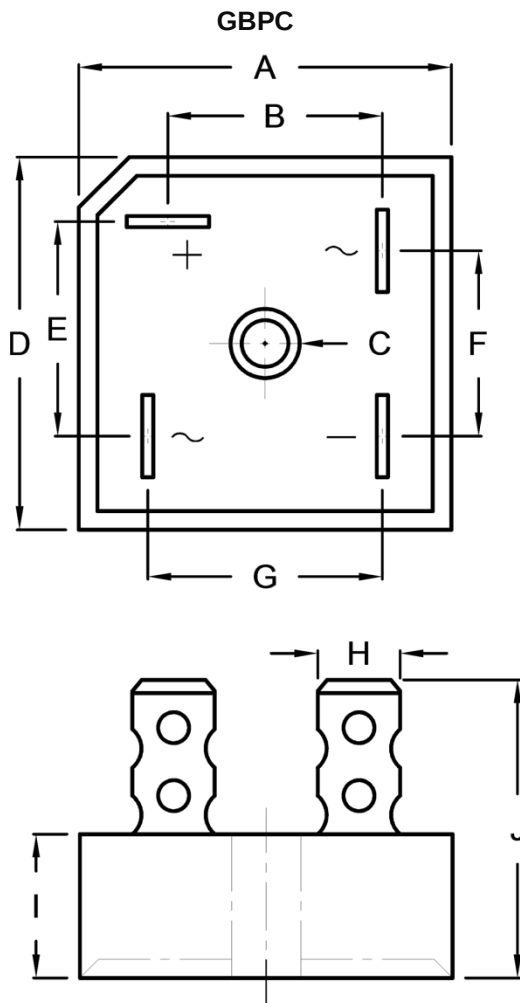


Fig.5 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	28.50	29.00	1.122	1.142
B	15.50	17.60	0.610	0.693
C	5.08	5.59	0.200	0.220
D	28.50	29.00	1.122	1.142
E	15.50	17.60	0.610	0.693
F	13.30	15.30	0.524	0.602
G	17.10	19.10	0.673	0.752
H	6.35 (TYP.)		0.250 (TYP.)	
I	10.97	11.23	0.432	0.442
J	21.50	24.50	0.846	0.965

MARKING DIAGRAM

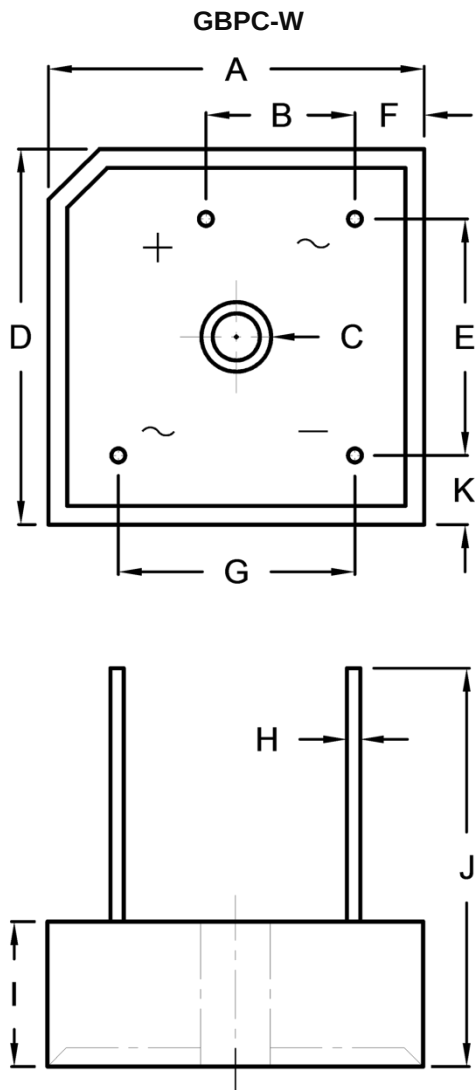


P/N = Marking Code

YWW = Date Code

F = Factory Code

PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	28.50	29.00	1.122	1.142
B	10.40	12.40	0.409	0.488
C	5.08	5.59	0.200	0.220
D	28.50	29.00	1.122	1.142
E	17.10	19.10	0.673	0.752
F	4.40	6.20	0.173	0.244
G	17.10	19.10	0.673	0.752
H	0.97	1.07	0.038	0.042
I	10.97	11.23	0.432	0.442
J	30.50	-	1.201	-
K	4.40	6.20	0.173	0.244

MARKING DIAGRAM

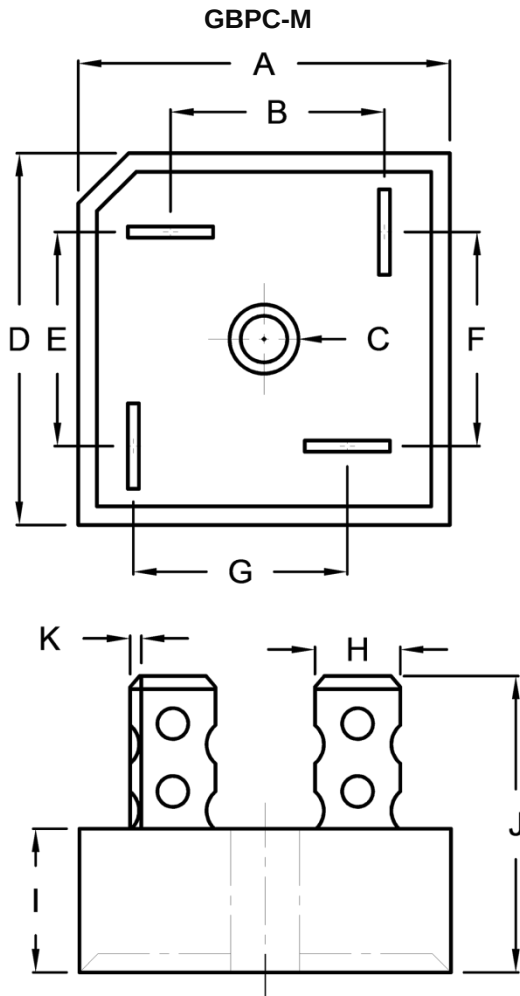


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PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	28.50	29.00	1.122	1.142
B	15.50	17.60	0.610	0.693
C	5.08	5.59	0.200	0.220
D	28.50	29.00	1.122	1.142
E	15.50	17.60	0.610	0.693
F	15.50	17.60	0.610	0.693
G	15.50	17.60	0.610	0.693
H	6.60 (TYP.)		0.260 (TYP.)	
I	10.97	11.23	0.432	0.442
J	21.26	24.57	0.837	0.967
K	0.76	0.86	0.030	0.034

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