

# 3A, 400V - 1000V Glass Passivated Bridge Rectifier

#### **FEATURES**

- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- High surge current capability
- UL Recognized File # E-326243
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

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 General purpose use in AC/DC bridge full wave rectification for SMPS, especially for the space constrained appliances applications

### **MECHANICAL DATA**

Case: KBPF

• Molding compound meets UL 94V-0 flammability rating

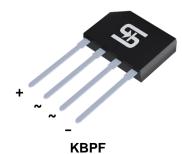
• Terminal: Matte tin plated leads, solderable per J-STD-002

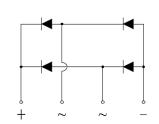
Polarity: As marked

• Weight: 1.4 g (approximately)

KEY PARAMETERS					
PARAMETER VALUE UNI					
I <sub>F</sub>	3	Α			
$V_{RRM}$	400 - 1000	V			
I <sub>FSM</sub>	80	Α			
T <sub>J MAX</sub>	150	°C			
Package	KBPF				
Configuration	Quad				







	SYMBOL	KBPF	KBPF	KBPF	KBPF	
PARAMETER		304G	305G	306G	307G	UNIT
Marking code on the device		KBPF 304G	KBPF 305G	KBPF 306G	KBPF 307G	
Repetitive peak reverse voltage	$V_{RRM}$	400	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	280	420	560	700	V
Forward current	I <sub>F</sub>	3		Α		
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	80			А	
Rating of fusing (t<8.3ms)	l <sup>2</sup> t	26.5			A <sup>2</sup> s	
Junction temperature	$T_J$	- 55 to +150			°C	
Storage temperature	T <sub>STG</sub>	- 55 to +150			°C	



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THERMAL PERFORMANCE					
PARAMETER	SYMBOL	TYP.	UNIT		
Junction-to-lead thermal resistance	$R_{\Theta JL}$	12	°C/W		
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	59	°C/W		
Junction-to-case thermal resistance	R <sub>eJC</sub>	13	°C/W		

Thermal Performance Note: Units mounted on PCB (10mm x 10mm Cu pad test board)

ELECTRICAL SPECIFICATIONS (T <sub>A</sub> = 25°C unless otherwise noted)						
PARAMETER	CONDITIONS	SYMBOL	TYP.	MAX.	UNIT	
Forward voltage per diode (1)	$I_F = 1.5A, T_J = 25^{\circ}C$	M	-	1.1	V	
Polward voltage per diode	$I_F = 1.5A, T_J = 125$ °C	$V_{F}$	-	1.0	V	
Deverse surrent @ reted \/ nor diade (2)	T <sub>J</sub> = 25°C	1	-	5	μA	
Reverse current @ rated V <sub>R</sub> per diode <sup>(2)</sup>	T <sub>J</sub> = 125°C	I <sub>R</sub>	-	50	μA	
Junction capacitance	1 MHz, V <sub>R</sub> =4.0V	CJ	27	-	pF	

### Notes:

- 1. Pulse test with PW=0.3 ms
- 2. Pulse test with PW=30 ms

ORDERING INFORMATION					
ORDERING CODE	PACKAGE	PACKING			
KBPF304G C8G	KBPF	35 / TUBE			
KBPF305G C8G	KBPF	35 / TUBE			
KBPF306G C8G	KBPF	35 / TUBE			
KBPF307G C8G	KBPF	35 / TUBE			

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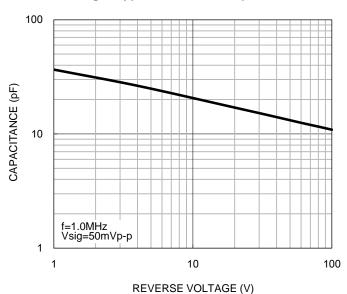
## **CHARACTERISTICS CURVES**

(T<sub>A</sub> = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

4 AVERAGE FORWARD CURRENT (A) 3 2 1 Heat sink 10mm x 10mm Cu pad test board 0 25 50 75 100 125 150 LEAD TEMPERATURE (°C)

**Fig.2 Typical Junction Capacitance** 



**Fig.3 Typical Reverse Characteristics** 

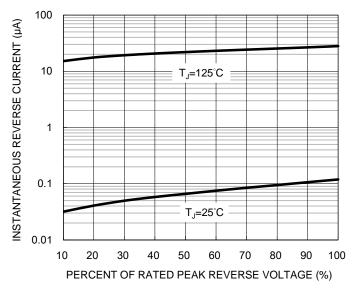
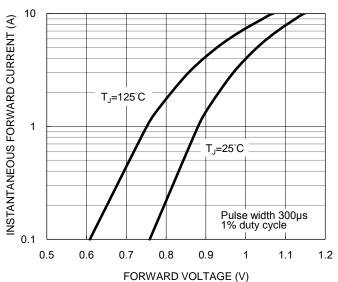


Fig.4 Typical Forward Characteristics

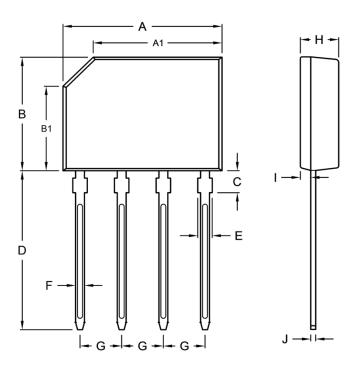


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## **PACKAGE OUTLINE DIMENSIONS**

## **KBPF**



DIM.	Unit (mm)		Unit (inch)	
Diwi.	Min.	Max.	Min.	Max.
Α	14.25	14.75	0.561	0.581
A1	11.45	12.05	0.451	0.474
В	10.10	10.60	0.398	0.417
B1	7.40	8.00	0.291	0.315
С	1.80	2.20	0.071	0.087
D	14.25	14.73	0.561	0.580
E	1.22	1.42	0.048	0.056
F	0.76	0.86	0.030	0.034
G	3.70	3.90	0.146	0.154
Н	3.35	3.65	0.132	0.144
I	0.80	1.10	0.031	0.043
J	0.35	0.55	0.014	0.022

## **MARKING DIAGRAM**



P/N = Marking Code G =Green Compound

YWW = Date Code F = Factory Code



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