

KBP2005G THRU KBP210G

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KBP2005G THRU KBP210G

2.0A Glass Passivated Single
Phase Bridge Rectifiers 50V-1000V

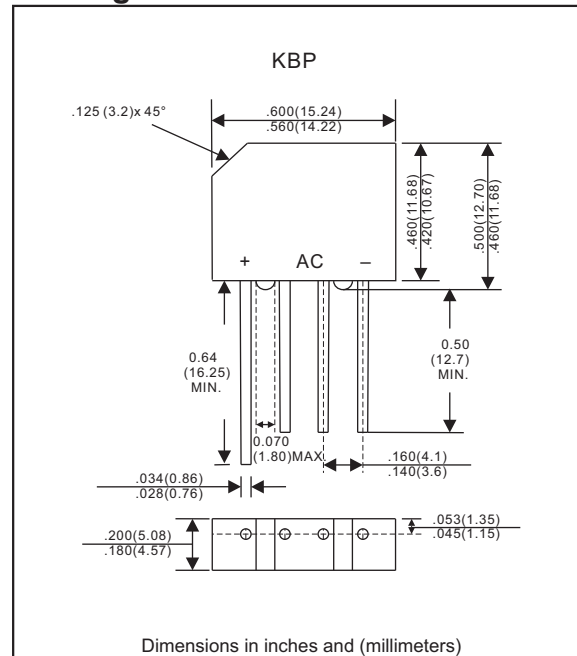
Features

- Surge overload ratings to 60 amperes peak
- Ideal for printed circuit board
- Reliable low cost construction technique
- Lead-free parts for green partner, meet RoHS requirements
- UL recognized file # E321971
- Suffix "-H" indicates Halogen free parts, ex. KBP2005G-H

Mechanical data

- Case: Potted plastic round body KBP
- Epoxy: UL94-V0 rated flame retardant
- Terminals: Solderable per MIL-STD-750 Method 2026
- Polarity: As marked
- Mounting Position: Any
- Weight: Approximated 1.70 grams

Package outline

Maximum ratings and Electrical characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_O			2.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			60	A
Reverse current, per diode	$V_R = V_{RRM}$ $T_J = 25^\circ\text{C}$	I_R			10.0	μA
	$V_R = V_{RRM}$ $T_J = 100^\circ\text{C}$				1000	
I^2t Rating for fusing	$t < 8.3 \text{ ms}$	I^2t			14.9	A^2s
Storage temperature		T_{STG}	-55		+150	$^\circ\text{C}$

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	Operating temperature $T_J, (^\circ\text{C})$
KBP2005G	50	35	50	1.10	-55 to +150
KBP201G	100	70	100		
KBP202G	200	140	200		
KBP204G	400	280	400		
KBP206G	600	420	600		
KBP208G	800	560	800		
KBP210G	1000	700	1000		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage, per diode @ $I_F=2.0\text{A}$

Rating and characteristic curves (KBP2005G THRU KBP210G)

Fig. 1 - Forward Current Derating Curve

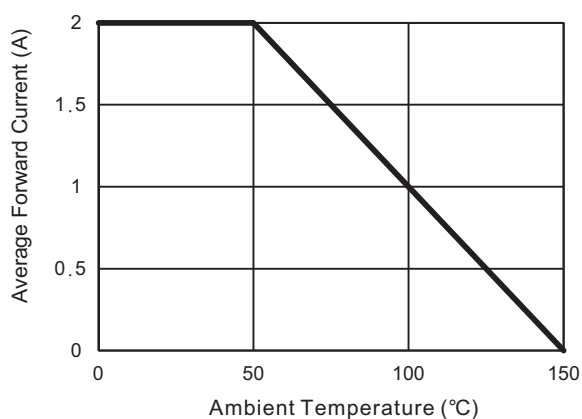


Fig. 2 - Maximum Non-Repetitive Surge Current

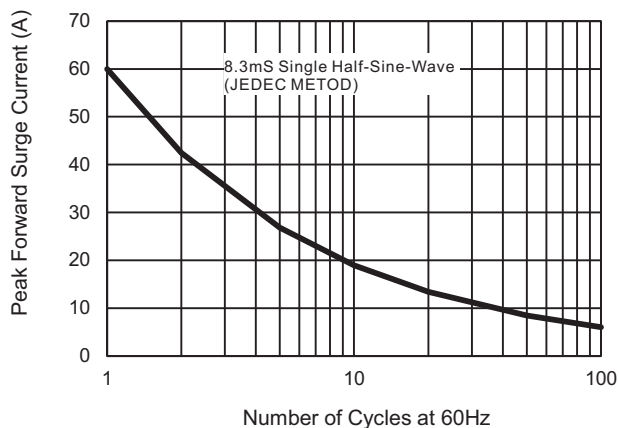


Fig. 3 - Typical Reverse Characteristics

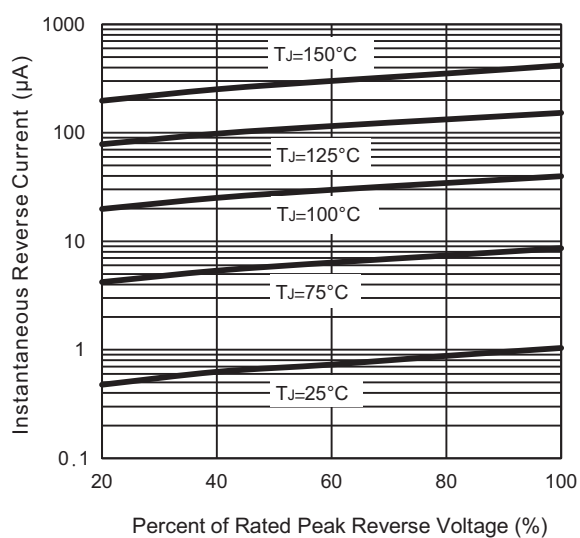
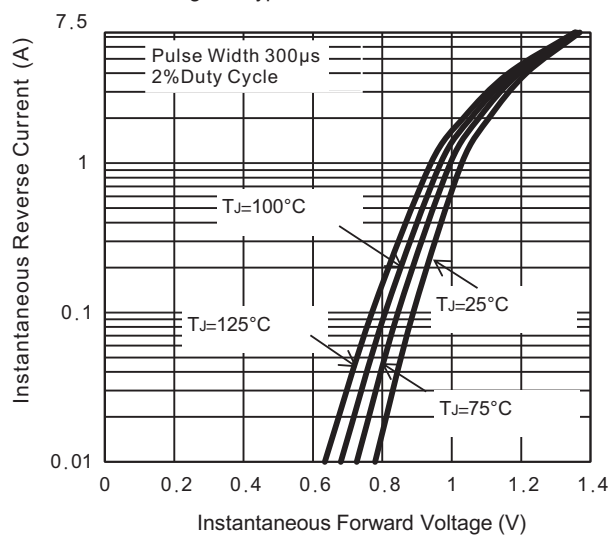
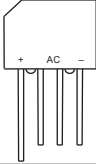
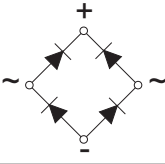


Fig. 4 - Typical Forward Characteristics



KBP2005G THRU KBP210G

Pinning information

Simplified outline	Symbol
	

Marking

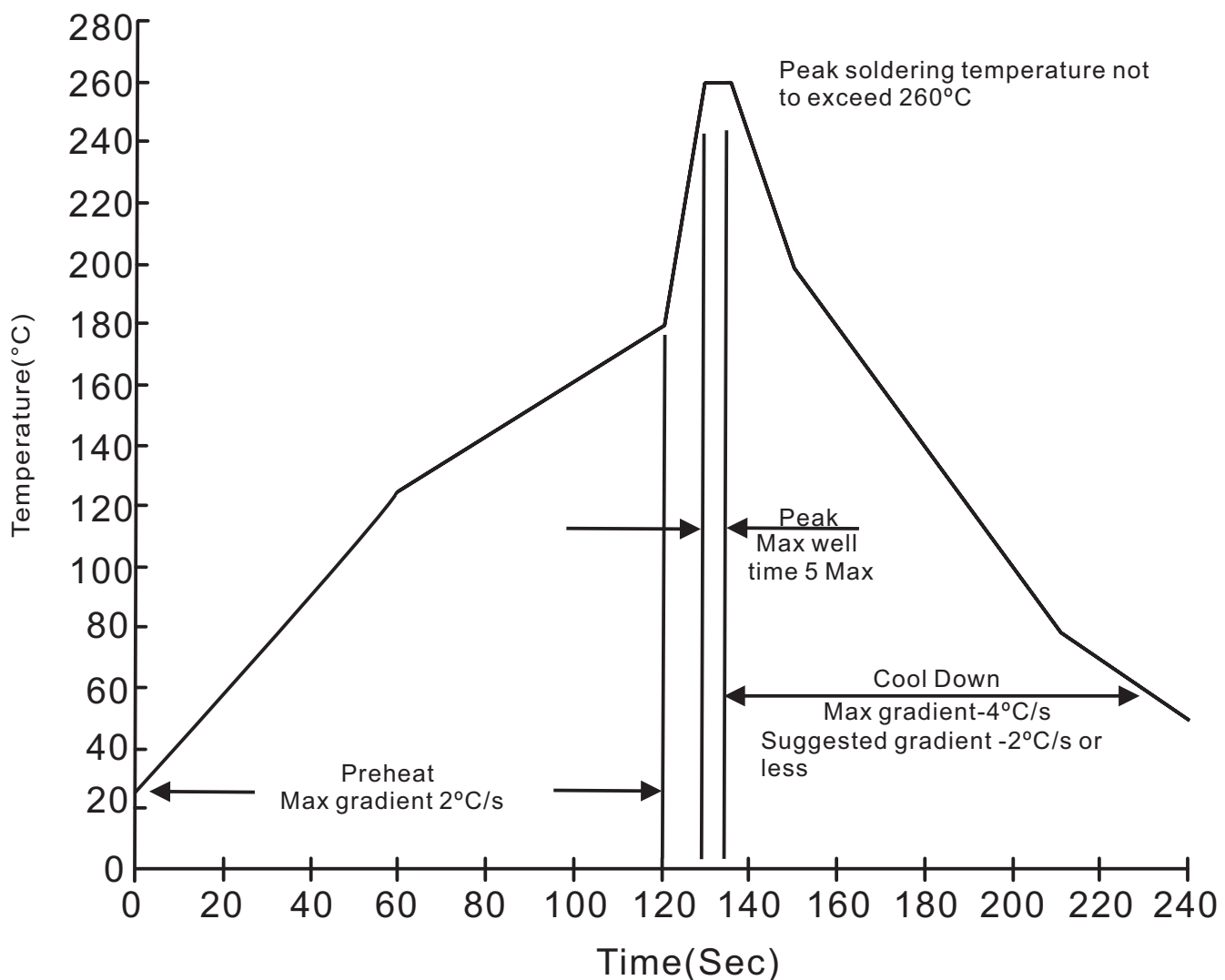
Type number	Marking code
KBP2005G	KBP2005G
KBP201G	KBP201G
KBP202G	KBP202G
KBP204G	KBP204G
KBP206G	KBP206G
KBP208G	KBP208G
KBP210G	KBP210G

Tube packing

PACKAGE	TUBE (pcs)	TUBE SIZE (m/m)	BOX (pcs)	INNER BOX (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
KBP	30	470*37.4*7.4	1,200	490*145*85	505*325*195	4,800	17.2

Bulk packing

PACKAGE	BOX (pcs)	INNER BOX (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
KBP	500	180*180*35	390*190*200	5,000	11.4

KBP2005G THRU KBP210G**Suggested thermal profiles for soldering processes****1. Lead free temperature profile wave-soldering**

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High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at $260 \pm 5^{\circ}\text{C}$ for $10 \pm 2\text{sec.}$ immerse body into solder $1/16'' \pm 1/32''$	MIL-STD-750D METHOD-2031
2. Solderability	at $245 \pm 5^{\circ}\text{C}$ for 5 sec.	MIL-STD-202F METHOD-208
3. High Temperature Reverse Bias	$V_R = 80\%$ rate at $T_J = 150^{\circ}\text{C}$ for 168 hrs.	MIL-STD-750D METHOD-1038
4. Forward Operation Life	Rated average rectifier current at $T_A = 25^{\circ}\text{C}$ for 500hrs.	MIL-STD-750D METHOD-1027
5. Intermittent Operation Life	$T_A = 25^{\circ}\text{C}$, $I_F = I_O$ On state: power on for 5 min. off state: power off for 5 min. on and off for 500 cycles.	MIL-STD-750D METHOD-1036
6. Pressure Cooker	$15P_{SIG}$ at $T_A = 121^{\circ}\text{C}$ for 4 hrs.	JESD22-A102
7. Temperature Cycling	-55°C to $+125^{\circ}\text{C}$ dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
8. Forward Surge	8.3ms single half sine-wave, one surge.	MIL-STD-750D METHOD-4066-2
9. Humidity	at $T_A = 85^{\circ}\text{C}$, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
10. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031