

# KBP2005G THRU KBP210G

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# KBP2005G THRU KBP210G

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

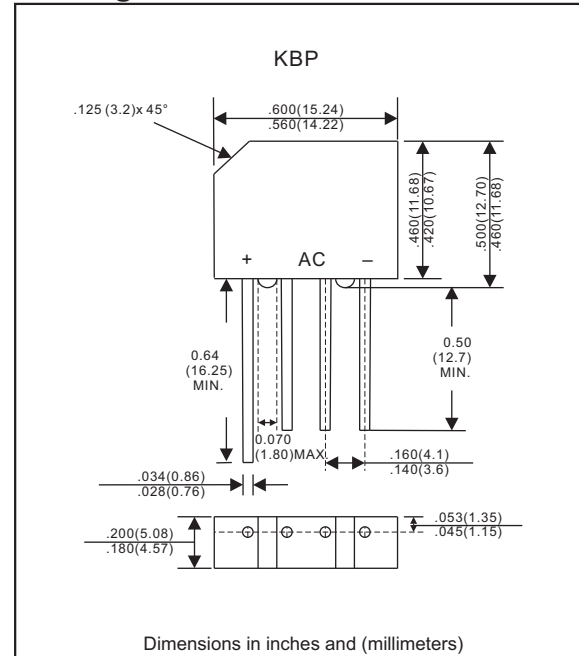
### Features

- 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	$\mu\text{A}$
	$V_R = V_{RRM}$ $T_J = 100^{\circ}\text{C}$				1000	
$I^2t$ Rating for fusing	$t < 8.3$ ms	$I^2t$			14.9	$\text{A}^2\text{s}$
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

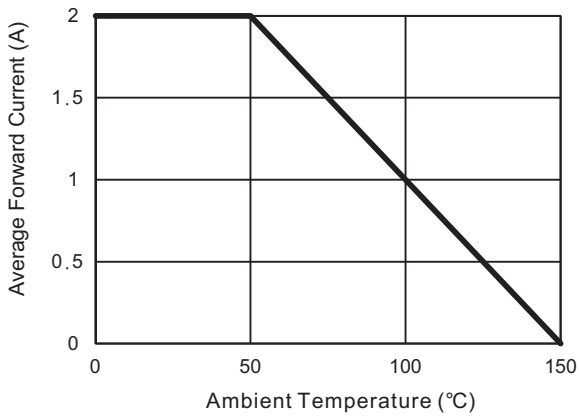


Fig. 2 - Maximum Non-Repetitive Surge Current

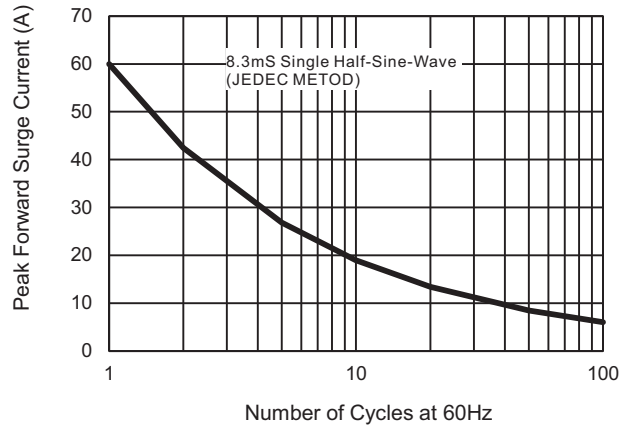


Fig. 3 - Typical Reverse Characteristics

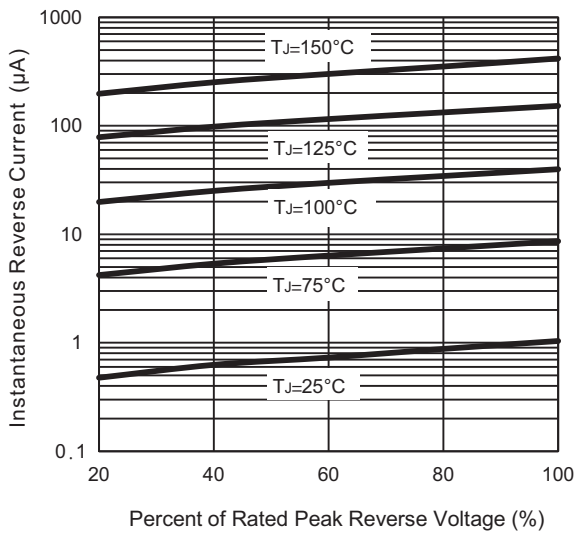
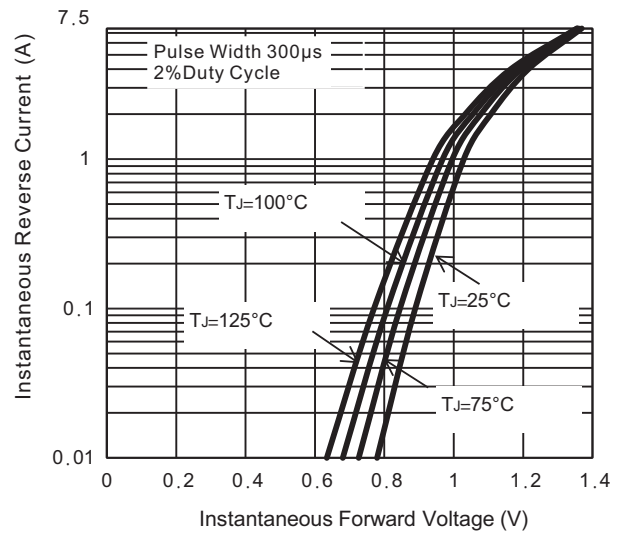
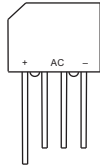
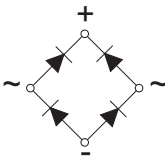


Fig. 4 - Typical Forward Characteristics



# 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

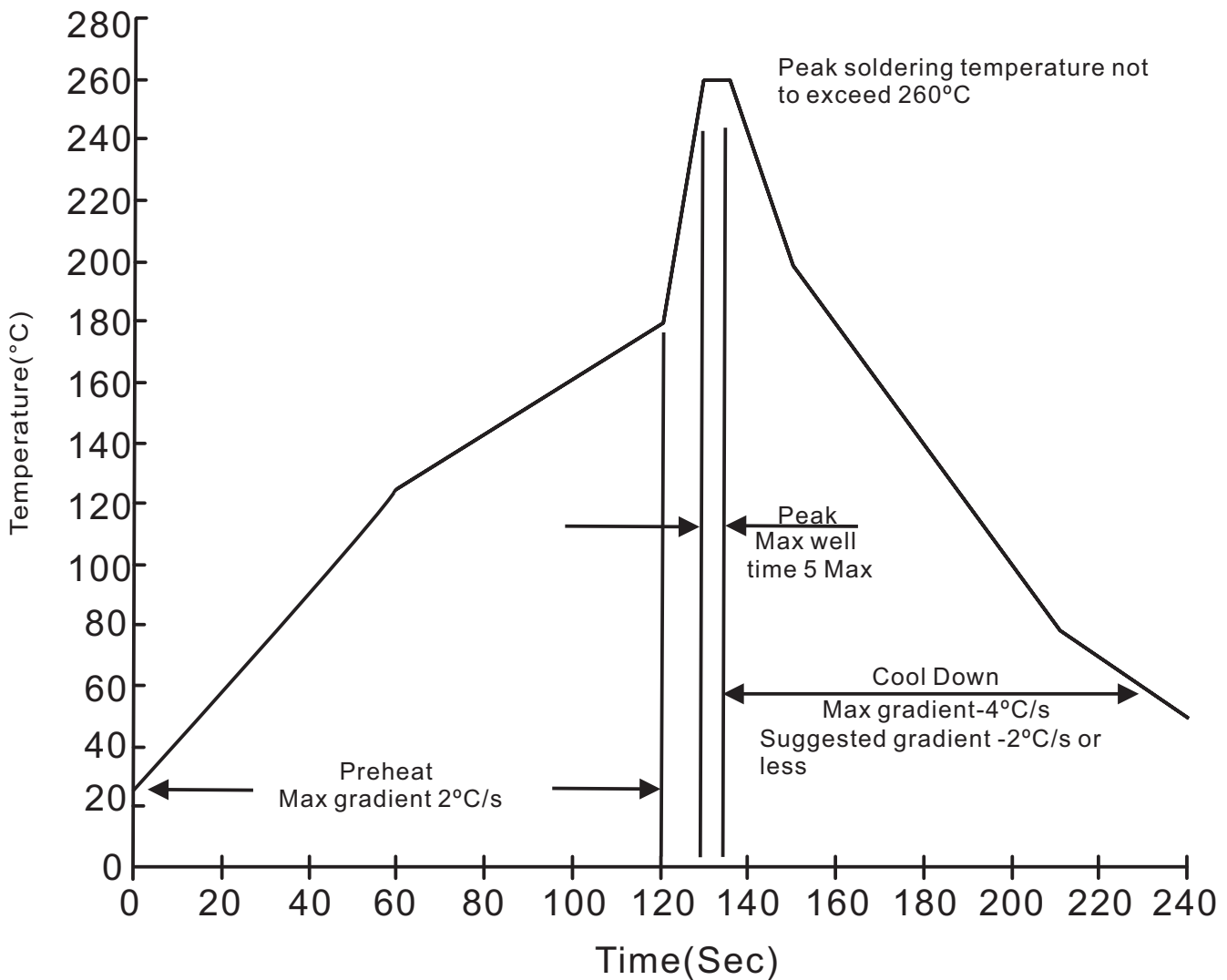
## Bulk packing

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

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## 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	$-55^\circ\text{C}$ 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 $175^\circ\text{C}$ for 1000 hrs.	MIL-STD-750D METHOD-1031