

## GLASS PASSIVATED BRIDGE RECTIFIERS

**REVERSE VOLTAGE – 1000 Volts  
FORWARD CURRENT – 4.0 Amperes**

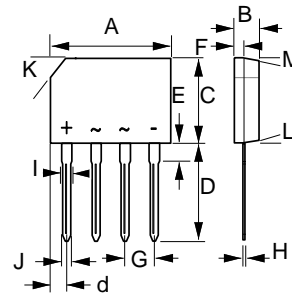
### FEATURES

- Rating to 1000 Volts
- Ideal for printed circuit board
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. “Green” Device (Note 3)**

### MECHANICAL DATA

- Package: KBP
- Package Material: Plastic material, UL flammability classification 94V-0
- Polarity indicator: Symbol molded on body
- Qualification is according to MIL –STD 750E
- Weight: 0.05 ounces, 1.52 grams (Approximate)

### KBP



KBP		
DIM.	MIN.	MAX.
A	14.25	14.75
B	3.35	3.65
C	10.20	10.60
D	14.25	14.73
d	1.40	1.70
E	1.80	2.20
F	0.80	1.10
G	3.56	4.06
H	0.35	0.55
I	1.22	1.42
J	0.76	0.86
K	2.7 x 45° (Typ.)	
L	-	3°
M	-	2°

All Dimensions in millimeter

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

### ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	1000	V
Maximum DC blocking voltage	$V_{DC}$	1000	V
Maximum Average Forward Rectified Current @TC=105°C	$I_{(AV)}$	4 2	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	@ $T_J=25^\circ\text{C}$	75	A
	@ $T_J=125^\circ\text{C}$	60	
Peak forward surge current 1ms single half sine-wave superimposed on rated load	@ $T_J=25^\circ\text{C}$	150	A
	@ $T_J=125^\circ\text{C}$	120	
$I^2t$ rating for fusing ( $t = 8.3\text{ms}$ )	$I^2t$	26.5	A <sup>2</sup> S
Storage temperature range	$T_J, T_{STG}$	-55 to +150	°C

### STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION		SYMBOL	VALUE	UNIT
Forward voltage	$I_F = 4\text{ A}$	$T_J = 25^\circ\text{C}$	$V_F$	1.1	V
Leakage current	$V_R$ at rated	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	$I_R$	5 500	$\mu\text{A}$
Typical junction capacitance (Note 4)			$C_J$	50	pF

### THERMAL CHARACTERISTICS

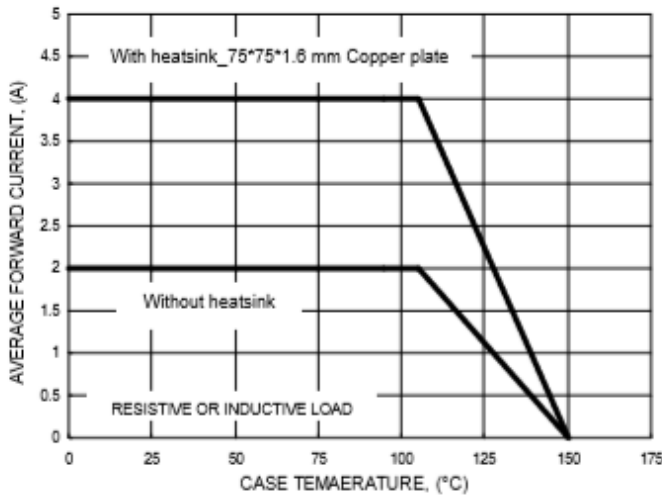
PARAMETER	SYMBOL	TYP.	UNIT
Typical thermal resistance (Note 5) (Unit mounted on 75mmx75mmx1.6mm copper plate heatsink.)	$R_{thJC}$	10	°C/W
	$R_{thJL}$	12	
	$R_{thJA}$	30	
Typical Thermal Resistance (Note 5) (without heatsink)	$R_{thJC}$	12	°C/W
	$R_{thJL}$	18	
	$R_{thJA}$	40	

### Notes:

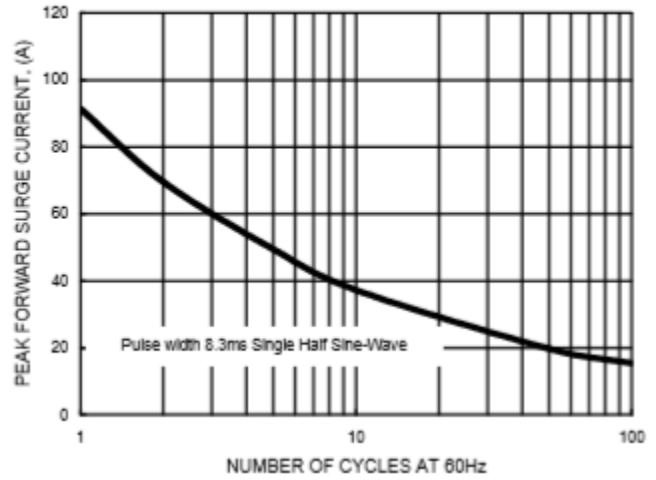
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
5. Thermal resistance junction to case, lead and ambient.

**RATING AND CHARACTERISTIC CURVES**  
**KBP4M**

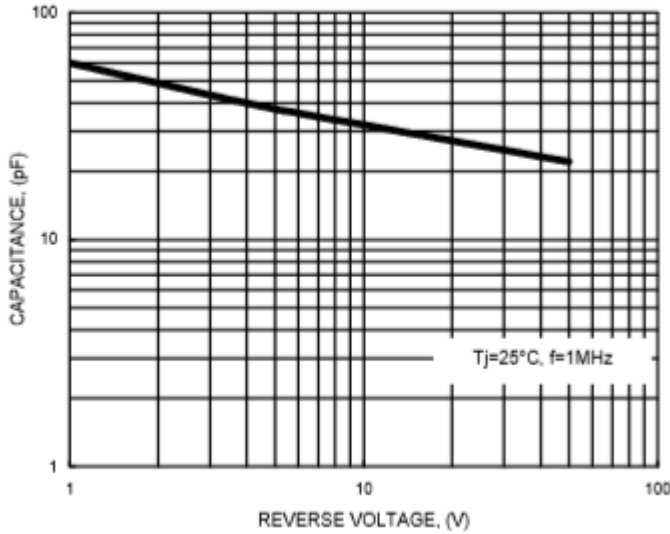
**FIG.1- FORWARD CURRENT DERATING CURVE**



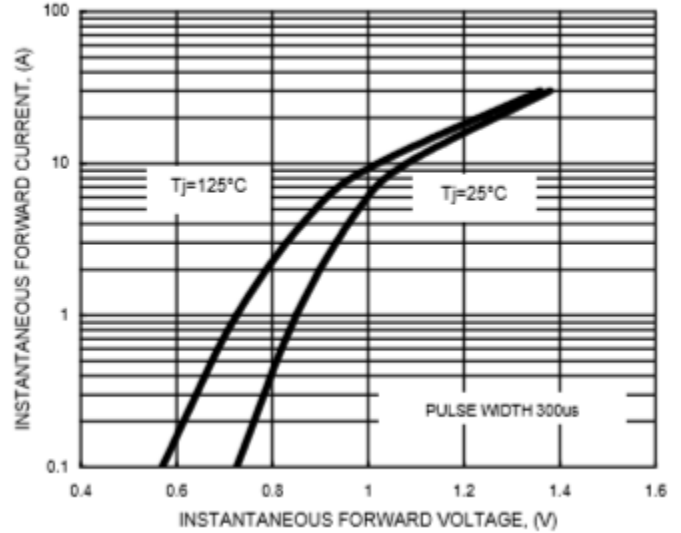
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



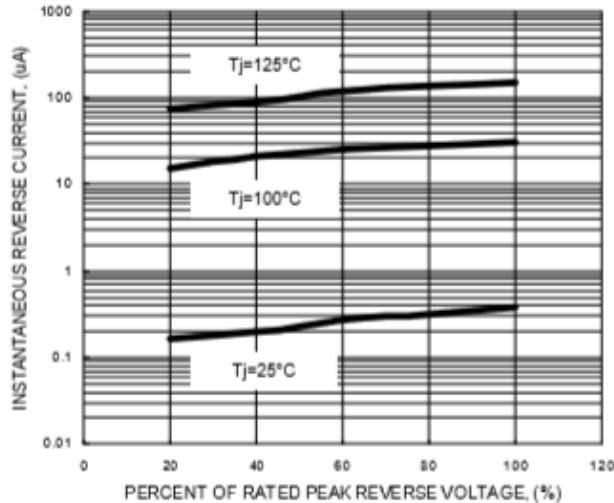
**FIG.3- TYPICAL JUNCTION CAPACITANCE**



**FIG.4- TYPICAL FORWARD CHARACTERISTICS**



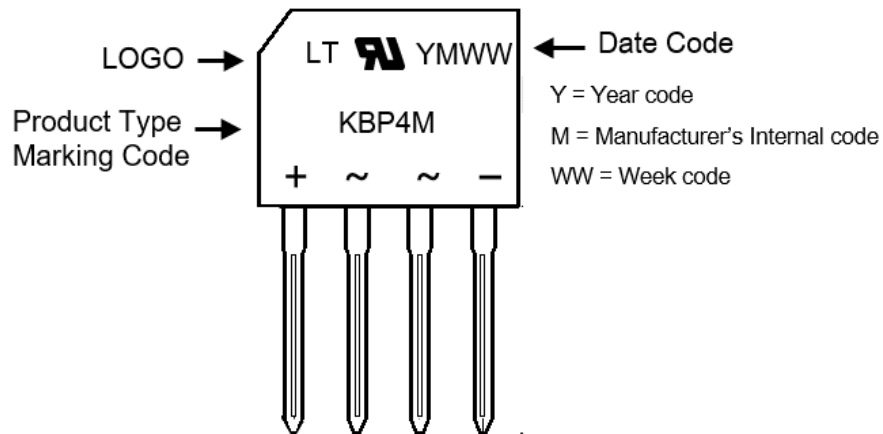
**FIG.5- TYPICAL REVERSE CHARACTERISTICS**



### Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
KBP4M_HF	KBP	35pcs	Tube

### Marking Information :



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