KBP2005G–KBP210G

2.0A STANDARD RECOVERY BRIDGE RECTIFIER

Product Summary

V_{RRM} (V)	I_F (A)	V_F Max (V) @ I_F = 2A	I_R Max (μA)
50/100/200/400/600/800/1000	2.0	1.1	5

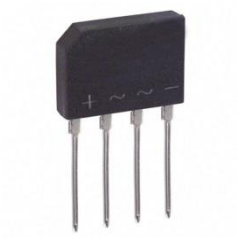
Features and Benefits

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1,500 V_{RMS}
- Low Reverse Leakage Current
- Surge Overload Rating to 65A Peak
- Ideal for Printed Circuit Board Applications
- UL Listed Under Recognized Component Index, File Number E95060
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative. https://www.diodes.com/quality/product-definitions/**

Mechanical Data

- Package: KBP
- Package Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Finish – Tin Plated Leads. Solderable per MIL-STD-202, Method 208 e3
- Polarity: Marked on Body
- Marking: Type Number
- Weight: 1.52 grams (Approximate)

KBP

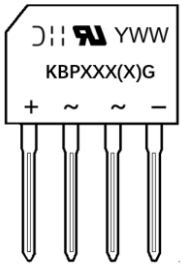


Ordering Information (Note 3)

Orderable Part Number	Package	Packing	
		Qty.	Carrier
KBP2005G	KBP	35pcs	Tube
KBP201G	KBP	35pcs	Tube
KBP202G	KBP	35pcs	Tube
KBP204G	KBP	35pcs	Tube
KBP206G	KBP	35pcs	Tube
KBP208G	KBP	35pcs	Tube
KBP210G	KBP	35pcs	Tube

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. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information



KBPXXXG = Product Type Marking Code, ex: KBP201G, KBP202G, KBP204G, KBP206G, KBP208G, KBP210G
KBPXXXXG = Product Type Marking Code, ex: KBP2005G
= Manufacturer's Code Marking
YWW = Date Code Marking
Y = Last Digit of Year (ex: 5 = 2025)
WW = Week Code (01 to 53)

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	KBP2005G	KBP201G	KBP202G	KBP204G	KBP206G	KBP208G	KBP210G	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{RM}	50	100	200	400	600	800	1,000	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current @T_C = +105°C	I_O	2.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	65							A
I^2t Rating for Fusing (3ms ≤ t ≤ 8.3ms)	I^2t	17.5							A^2s

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Case (Note 4)	$R_{\theta JC}$	14	°C/W
Typical Thermal Resistance, Junction to Lead	$R_{\theta JL}$	18	°C/W
Typical Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	40	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min		Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	KBP210G KBP208G KBP206G KBP204G KBP202G KBP201G KBP2005G	1,000 800 600 400 200 100 50	—	—	V	I_R = 5μA
Forward Voltage Drop per Element	V_F	—		—	1.1	V	I_F = 2A, T_J = +25°C
Leakage Current (Note 5)	I_R	— —		— —	5 500	μA	V_R = V_{RRM}, T_C = +25°C V_R = V_{RRM}, T_C = +125°C
Total Capacitance per Element	C_T	—		25	—	pF	V_R = 4.0V_{DC}, f = 1MHz

Notes: 4. Thermal resistance from junction to case per element. Device mounted on 75mm x 75mm x 1.6mm Cu plate heatsink.
5. Short duration pulse test used to minimize self-heating effect.

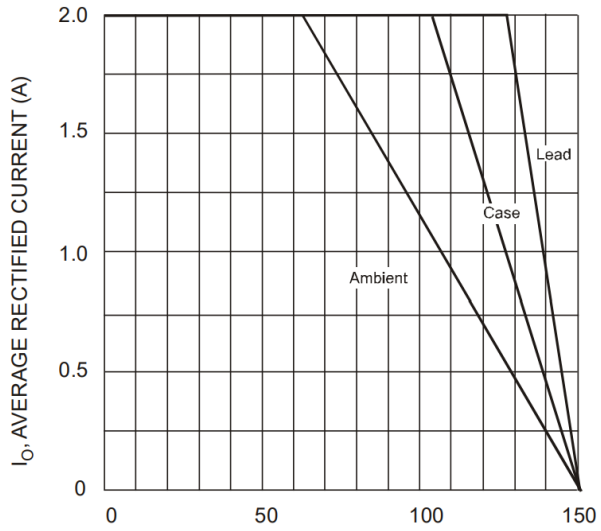


Fig. 1 Forward Current Derating Curve

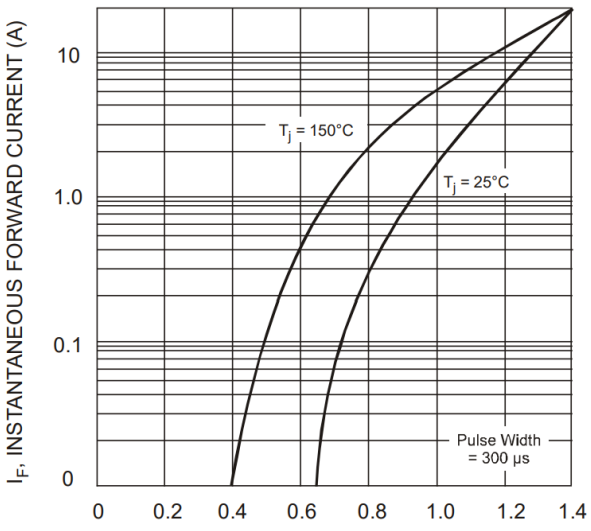


Fig. 2 Typical Forward Characteristics

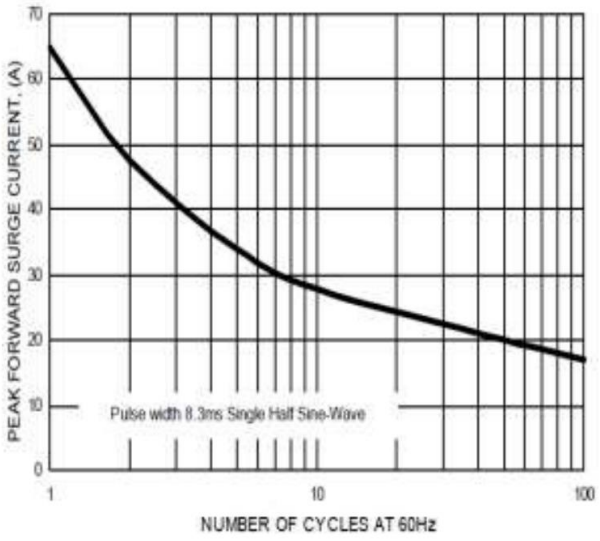


Fig. 3 Maximum Non-Repetitive Surge Current

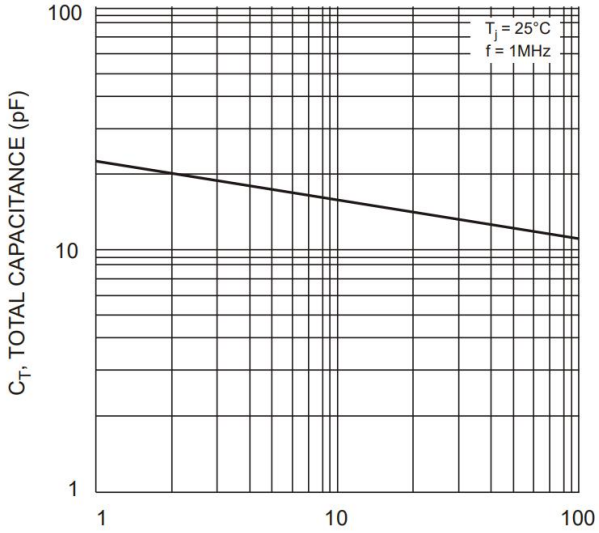


Fig. 4 Typical Total Capacitance, Per Element

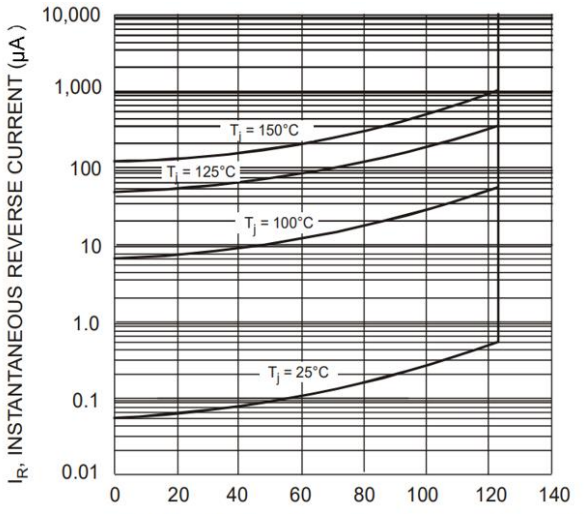


Fig. 5 Typical Reverse Characteristics

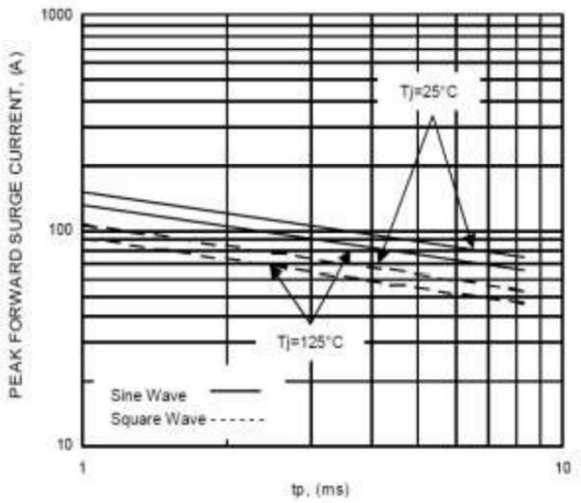
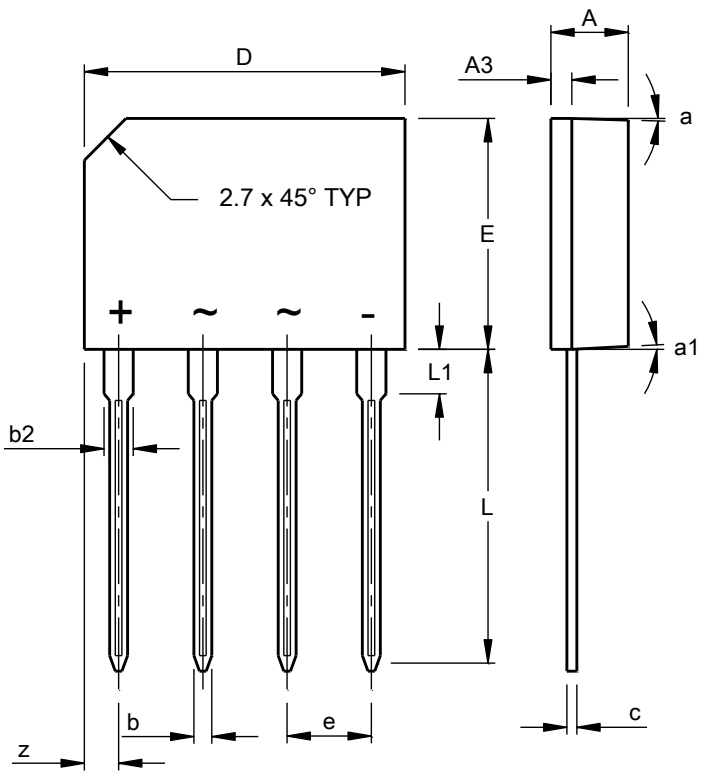


Fig. 6 Non-Repetitive Surge Current

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

KBP



KBP			
Dim	**Min**	**Max**	**Typ**
A	3.35	3.65	-
A3	0.80	1.10	-
b	0.76	0.86	-
b2	1.22	1.42	-
c	0.35	0.55	-
D	14.25	14.75	-
E	10.20	10.60	-
e	3.56	4.06	-
L	14.25	14.73	-
L1	1.80	2.20	-
z	1.40	1.70	-
a	-	-	3°
a1	-	-	2°
All Dimensions in mm			

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