

### **6.0A GLASS PASSIVATED BRIDGE RECTIFIER**

### **Features**

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500V<sub>RMS</sub>
- Low Reverse Leakage Current
- Surge Overload Rating to 170A Peak
- Ideal for Printed Circuit Board Applications
- UL Listed Under Recognized Component Index, File Number F94661
- Lead Free Finish, RoHS Compliant (Note 4)

## **Mechanical Data**

- Case: KBJ
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish Tin. Plated Leads, Solderable per MIL-STD-202, Method 208 (2)
- Polarity: Molded on Body
- Mounting: Through Hole for #6 Screw
- Mounting Torque: 5.0 in-lbs Maximum
- Ordering Information: See Page 3
- Marking: Type Number
- Weight: 4.6 grams (approximate)

## **Maximum Ratings** @T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitance load, derate current by 20%.

Characteristic	Symbol	KBJ 6005G	KBJ 601G	KBJ 602G	KBJ 604G	KBJ 606G	KBJ 608G	KBJ 610G	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	50	100	200	400	600	800	1000	٧
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Rectified Output Current @ T <sub>C</sub> = 110°C	I <sub>O</sub>				6.0			-	Α
Non-Repetitive Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>				170				Α

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance (Note 2)	$R_{\theta JC}$	1.5	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

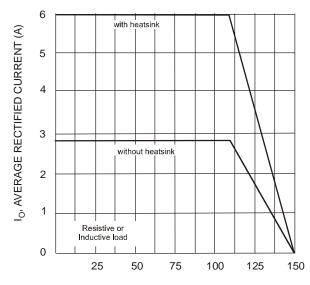
## **Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Forward Voltage per element	$@ I_F = 3.0A$	$V_{FM}$	1.0	V
Peak Reverse Current at Rated DC Blocking Voltage	@ $T_C = 25^{\circ}C$ @ $T_C = 125^{\circ}C$	I <sub>RM</sub>	5.0 500	μA
I <sup>2</sup> t Rating for Fusing (t < 8.3ms) (Note 3)		l <sup>2</sup> t	120	A <sup>2</sup> s
Typical Total Capacitance per Element (Note 1)		$C_T$	80	pF

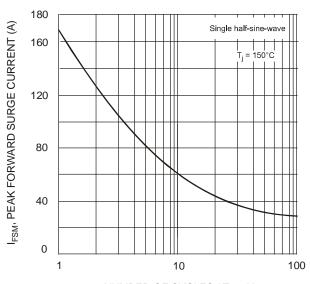
Notes:

- 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
- 2. Thermal resistance from junction to case per element. Unit mounted on 75 x 75 x 1.6mm aluminum plate heat sink.
- 3. Non-repetitive, for t > 1ms and < 8.3ms.
- 4. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at http://www.diodes.com/products/lead\_free.html.

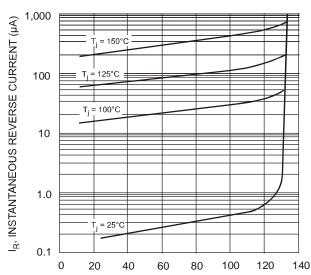




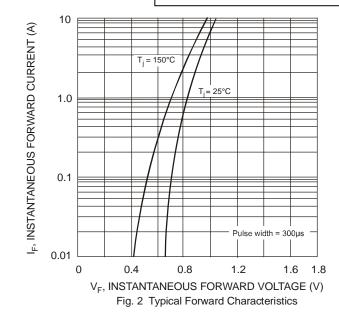
T<sub>C</sub>, CASE TEMPERATURE (°C) Fig. 1 Forward Current Derating Curve



NUMBER OF CYCLES AT 60 Hz Fig. 3 Max Non-Repetitive Surge Current



PERCENT OF RATED PEAK REVERSE VOLTAGE (%) Fig. 5 Typical Reverse Characteristics



1,000

(a)

100

10

0.1

1.0

10

10

V<sub>R</sub>, REVERSE VOLTAGE (V)

Fig. 4 Typical Total Capacitance, Per Element

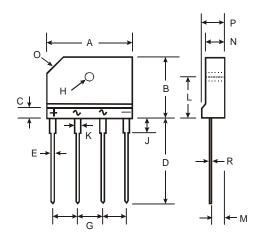


# Ordering Information (Note 5)

Part Number	Case	Packaging
KBJ6005G	KBJ	20/Tube
KBJ601G	KBJ	20/Tube
KBJ602G	KBJ	20/Tube
KBJ604G	KBJ	20/Tube
KBJ606G	KBJ	20/Tube
KBJ608G	KBJ	20/Tube
KBJ610G	KBJ	20/Tube

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

# **Package Outline Dimensions**



KBJ					
Dim	Min	Max			
Α	24.80	25.20			
В	14.70	15.30			
С	3.90	4.10			
D	17.20	17.80			
E	0.90	1.10			
G	7.30	7.70			
Н	3.10∅	3.40∅			
J	3.30	3.70			
K	1.50	1.90			
L	9.30	9.70			
M	2.50	2.90			
N	3.40	3.80			
0	3.0 x 45°				
Р	4.40	4.80			
R	0.60	0.80			
All Dimensions in mm					



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