



**THE DATASHEET OF  
KBJ601G**



## 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 E94661
- **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
- 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	V
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							A
Non-Repetitive Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	170							A

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance (Note 2)	R <sub>θJC</sub>	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 <sub>F</sub> = 3.0A	V <sub>FM</sub>	1.0	V
Peak Reverse Current @ T <sub>C</sub> = 25°C at Rated DC Blocking Voltage @ T <sub>C</sub> = 125°C	I <sub>RM</sub>	5.0 500	μA
I <sup>2</sup> t Rating for Fusing (t < 8.3ms) (Note 3)	I <sup>2</sup> t	120	A <sup>2</sup> s
Typical Total Capacitance per Element (Note 1)	C <sub>T</sub>	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](http://www.diodes.com/products/lead_free.html).

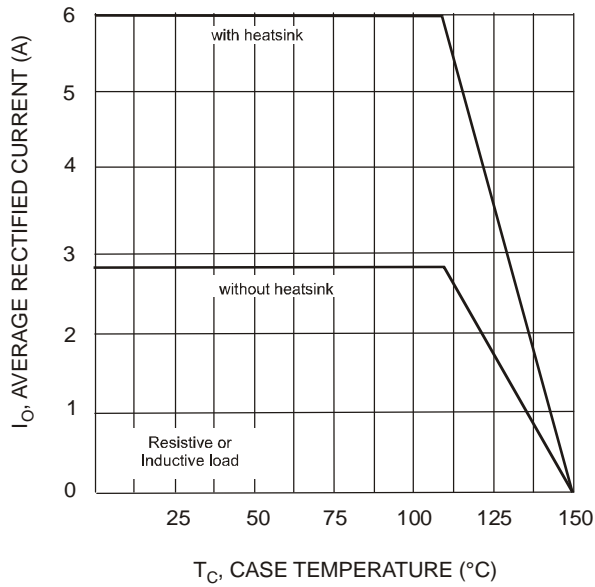


Fig. 1 Forward Current Derating Curve

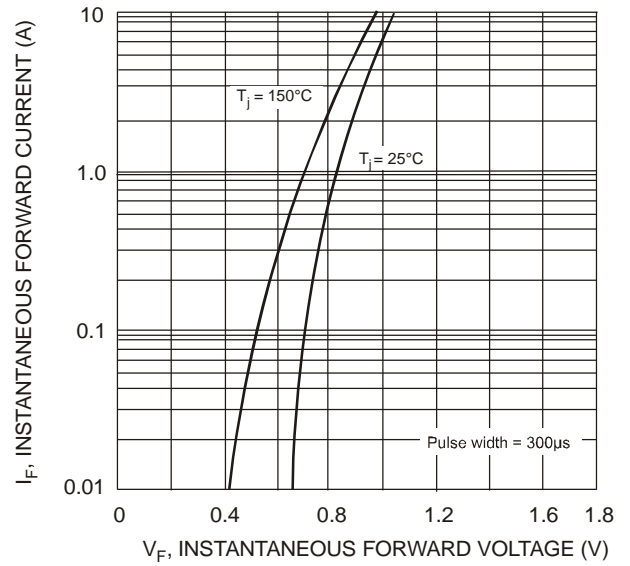


Fig. 2 Typical Forward Characteristics

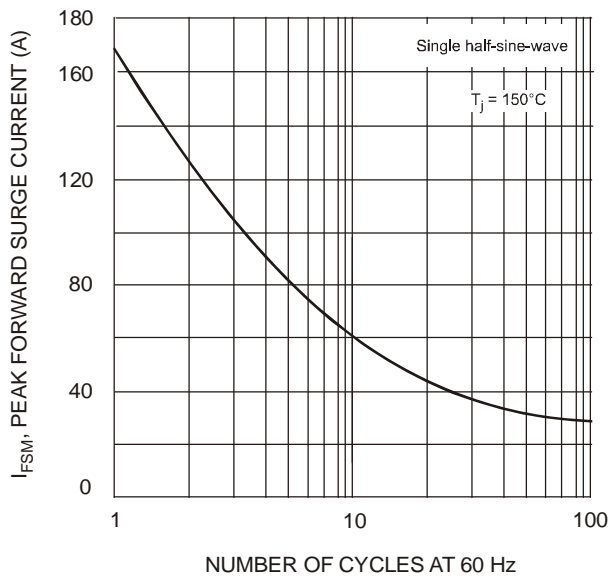


Fig. 3 Max Non-Repetitive Surge Current

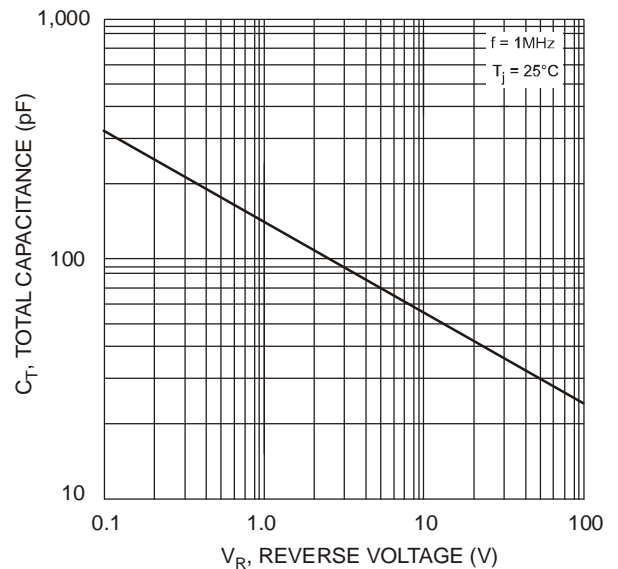


Fig. 4 Typical Total Capacitance, Per Element

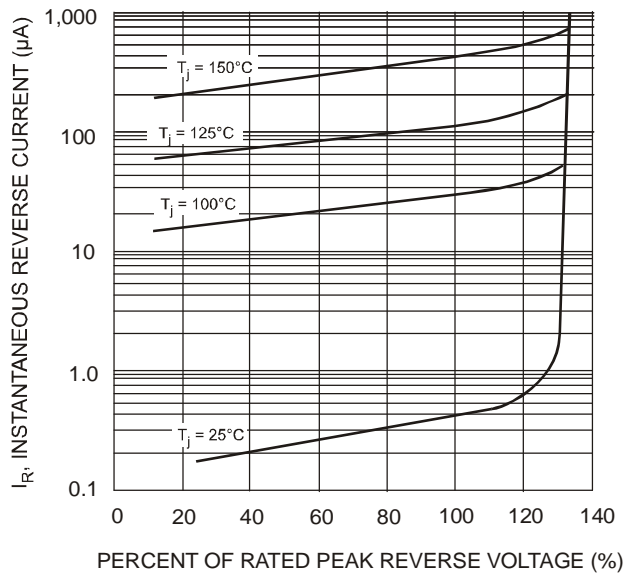


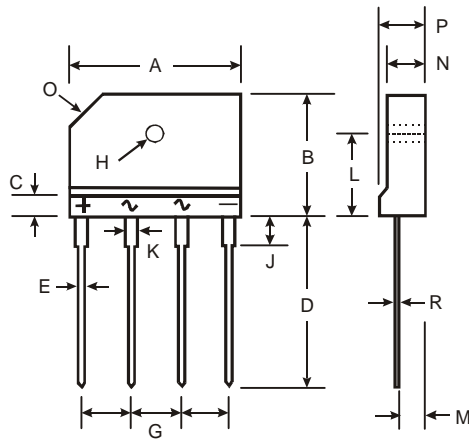
Fig. 5 Typical Reverse Characteristics

**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
A	24.80	25.20
B	14.70	15.30
C	3.90	4.10
D	17.20	17.80
E	0.90	1.10
G	7.30	7.70
H	3.10 $\varnothing$	3.40 $\varnothing$
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
O	3.0 x 45°	
P	4.40	4.80
R	0.60	0.80
<b>All Dimensions in mm</b>		

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