

## Product Summary

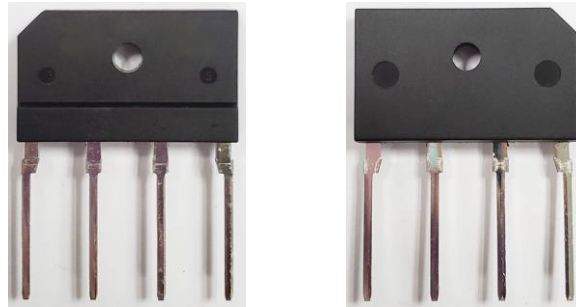
V <sub>RRM</sub> (V)	I <sub>F</sub> (A)	V <sub>F</sub> Max (V) @ I <sub>F</sub> = 10A	I <sub>R</sub> Max (μA)
600	20	0.9	10

## Mechanical Data

- Package: KBJ
- Package Material: Plastic Material, "Green" Molding Compound  
UL Flammability Classification Rating 94V-0
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL STD-202, Method 208 ③
- Polarity Indicator: As Marked on The Body
- Weight: 4.6 grams (Approximate)
- Mounting Position: Any

## Features

- Glass Passivated Die Construction
- Low-Forward Voltage Drop
- Ideal for Printed Circuit Board
- Reliable Low Cost Construction Utilizing Molded Plastic Technique
- UL Recognized File # E95060
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **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](mailto:contact@diodes.com) or your local Diodes representative.**  
<https://www.diodes.com/quality/product-definitions/>

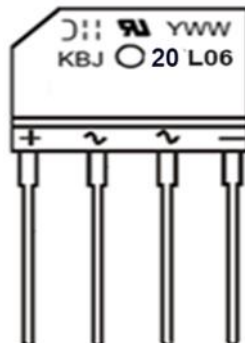


## Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
KBJ20L06	KBJ	20pcs	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. 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. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information



YWW = Manufacturer's Code Marking  
 KBJ20L06 = Product Type Marking Code  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 3 = 2023)  
 WW = Week Code (01 to 53)

**Maximum Ratings** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	600	V
Average Rectified Output Current @T <sub>J</sub> = +150°C	I <sub>F(AV)</sub>	With Heatsink 20	A
		Without Heatsink 4.3	
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed On Rated Load	I <sub>FSM</sub>	200	A
Peak Forward Surge Current 1.0ms Single Half Sine-Wave Superimposed On Rated Load		400	A
I <sup>2</sup> t Rating for Fusing (t = 8.3ms)	I <sup>2</sup> t	166	A <sup>2</sup> s
Operating Temperature Range	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Test Condition	Symbol	Min	Typ.	Max	Unit
Breakdown Voltage	I <sub>R</sub> = 10μA    T <sub>J</sub> = +25°C	V <sub>B</sub>	600	—	—	V
Forward Voltage	I <sub>F</sub> = 10A    T <sub>J</sub> = +25°C	V <sub>F</sub>	—	0.86	0.9	V
Leakage Current	V <sub>R</sub> = 600V    T <sub>J</sub> = +25°C T <sub>J</sub> = +125°C	I <sub>R</sub>	—	—	10 500	μA
Typical Junction Capacitance (Note 5)		C <sub>T</sub>	180			pF

**Thermal Characteristics**

Characteristic	Symbol	Typ.	Unit
Typical Thermal Resistance (Without Heat Sink)	R <sub>θJC</sub>	6	°C/W
	R <sub>θJL</sub>	9	
	R <sub>θJA</sub>	28	
Typical Thermal Resistance (Notes 6 & 7)	R <sub>θJC</sub>	1.5	°C/W
	R <sub>θJL</sub>	2.5	
	R <sub>θJA</sub>	6	

- Notes:
5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  6. Thermal resistance junction to case, lead and ambient in accordance with JESD-51.
  7. Device mounted on 200mm x 200mm x 5mm Al plate heatsink.

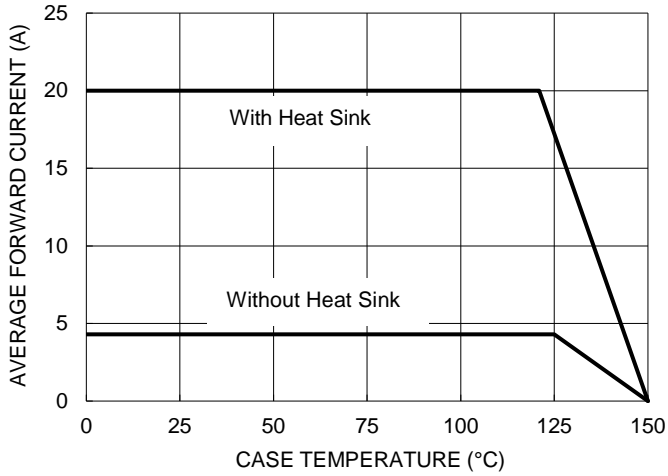


Figure 1. Forward Current Derating Curve

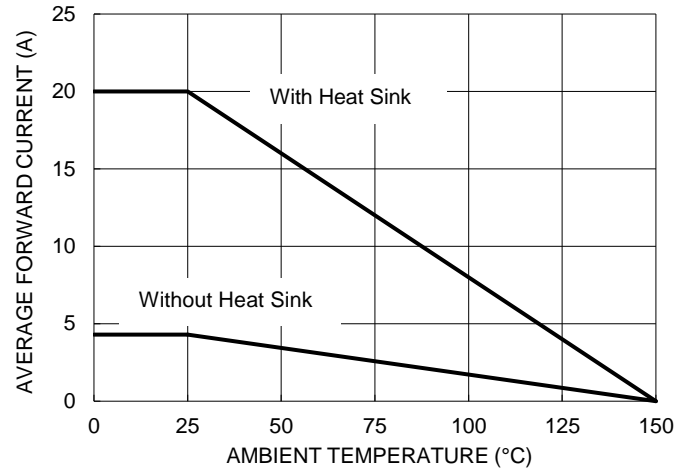


Figure 2. Forward Current Derating Curve

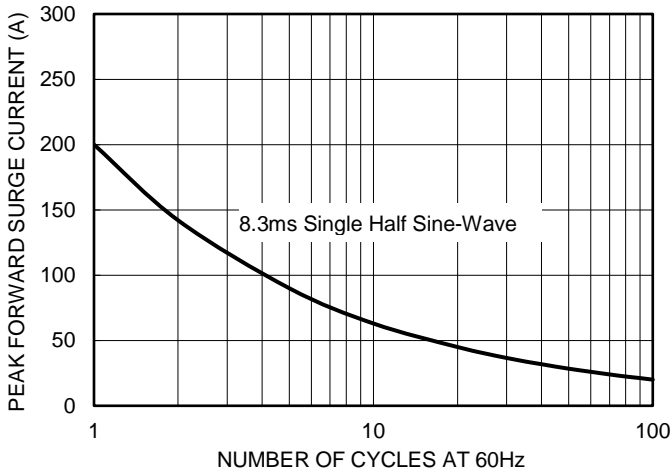


Figure 3. Maximum Non-Repetitive Surge Current

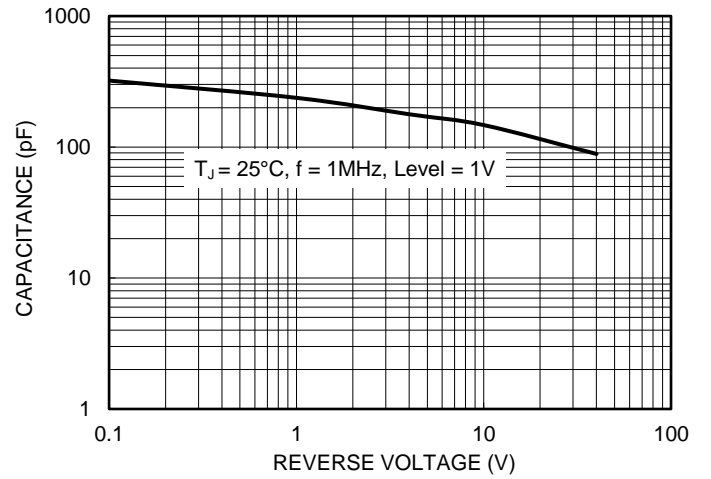


Figure 4. Typical Junction Capacitance

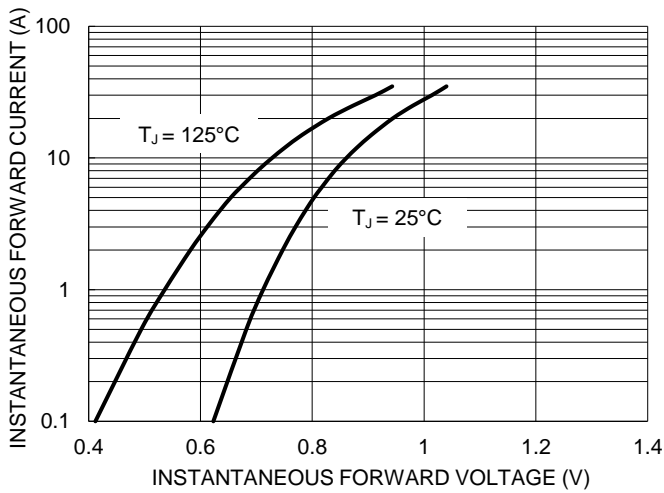


Figure 5. Typical Forward Characteristics

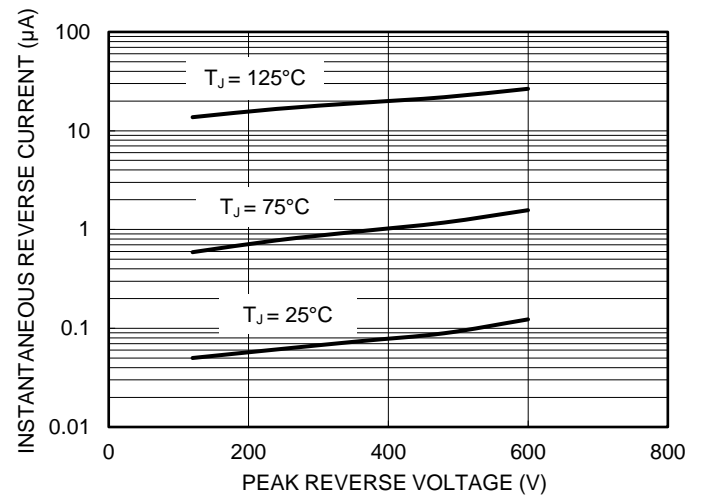
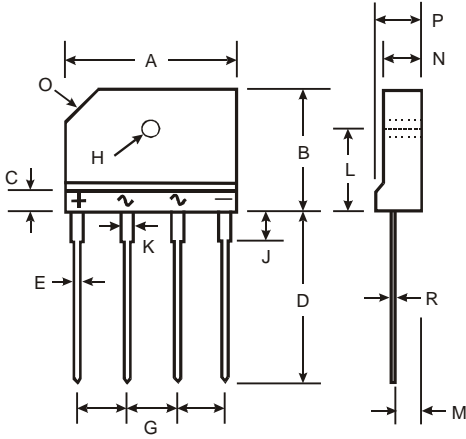


Figure 6. Typical Reverse Characteristics

**Package Outline Dimensions**

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

**KBJ**



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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