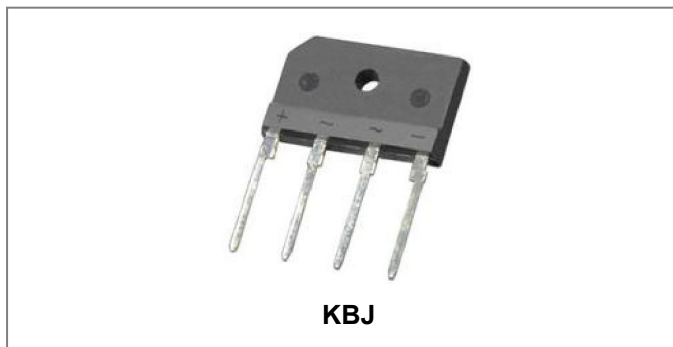


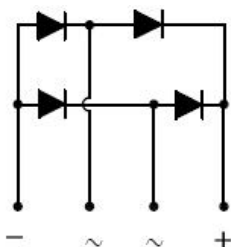
## KBJ10005 THRU KBJ1010 GLASS PASSIVATED SINGLE-PHASE BRIDGE RECTIFIER



### Features

- Glass passivated chip junction KBJ
- Reliable low cost construction utilizing molded plastic technique
- Ideal for printed circuit board
- Low forward voltage drop
- Low reverse leakage current
- High surge current capability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: Molded plastic, KBJ
- Epoxy: UL 94V-O rate flame retardant
- Terminals: Leads solderable per MIL-STD-202, method 208 guaranteed
- Mounting position: Any
- Weight: 0.16ounce, 4.6gram

### Maximum Ratings: @ $T_A=25^{\circ}\text{C}$ unless otherwise specified

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

Type Number	Symbol	KBJ 10005	KBJ 1001	KBJ 1002	KBJ 1004	KBJ 1006	KBJ 1008	KBJ 1010	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_{DC}$	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Average forward rectified output current @ $T_C=55^{\circ}\text{C}$	$I_o$	10							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	180							A

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

Type Number	Symbol	KBJ 10005	KBJ 1001	KBJ 1002	KBJ 1004	KBJ 1006	KBJ 1008	KBJ 1010	Units
Forward Voltage (per element)* @I <sub>F</sub> =5A	V <sub>F</sub>	1.1							V
Peak Reverse Current* @T <sub>A</sub> = 25°C At Rated DC Blocking Voltage* @T <sub>A</sub> = 125°C	I <sub>RM</sub>	10 500							μA

\* Pulse width < 300 μs, duty cycle < 2%

**Thermal-Mechanical Specifications: @T<sub>A</sub>=25°C unless otherwise specified**

Type Number	Symbol	KBJ 10005	KBJ 1001	KBJ 1002	KBJ 1004	KBJ 1006	KBJ 1008	KBJ 1010	Units
Typical Thermal Resistance(Note 1)	R <sub>θJC</sub>	1.2							°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

Note: 1. Device mounted on 100mm \* 100mm \* 1.6mm Cu Plate Heatsink.

**Ratings and Characteristics Curves**

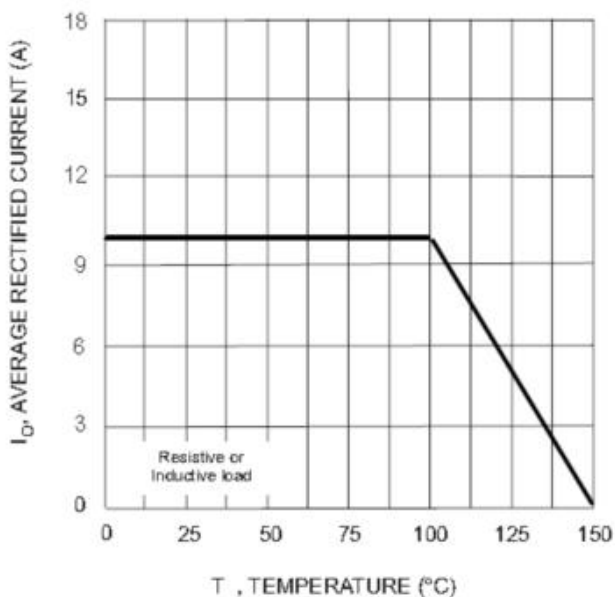


Fig. 1 Forward Current Derating Curve

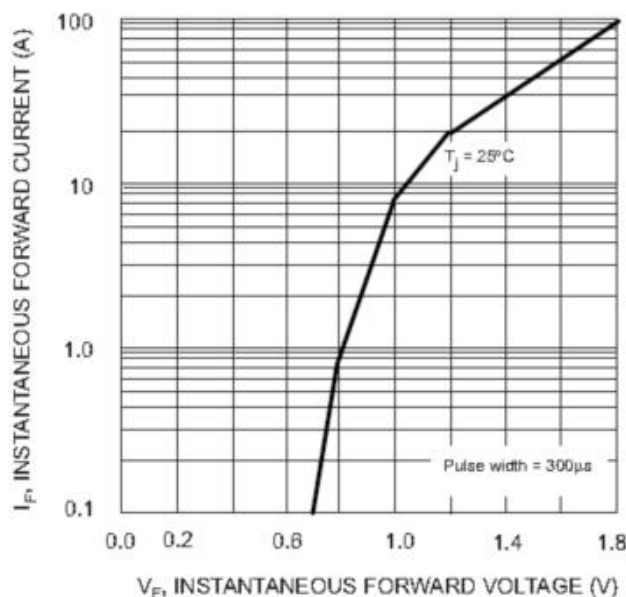


Fig. 2 Typical Fwd Characteristics, per element

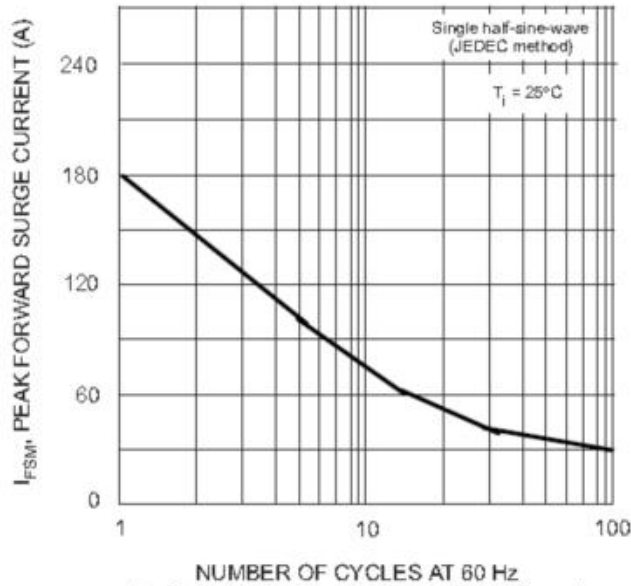


Fig. 3 Maximum Non-Repetitive Surge Current

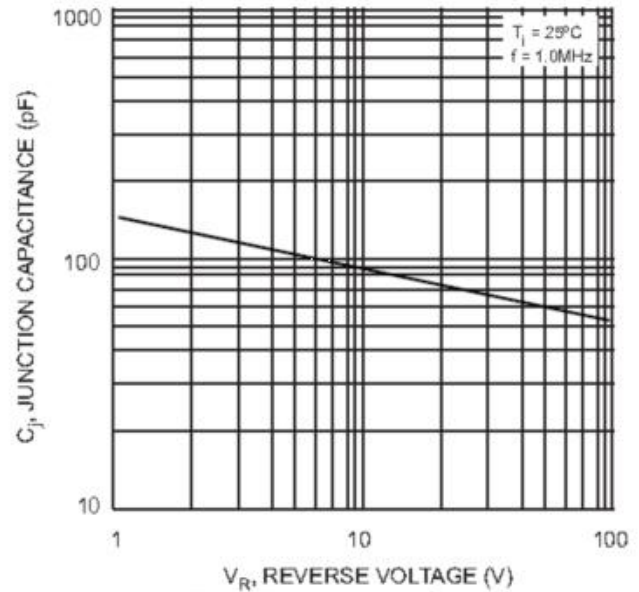
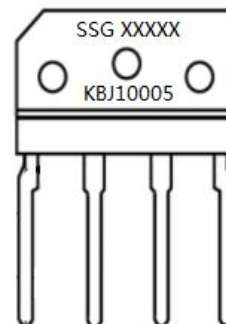


Fig. 4 Typical Junction Capacitance

## Ordering Information

Device	Package	Plating	Shipping
KBJ10005 THRU KBJ1010	KBJ (Pb-Free)	Pure Sn	20pcs / Tube

## Marking Diagram

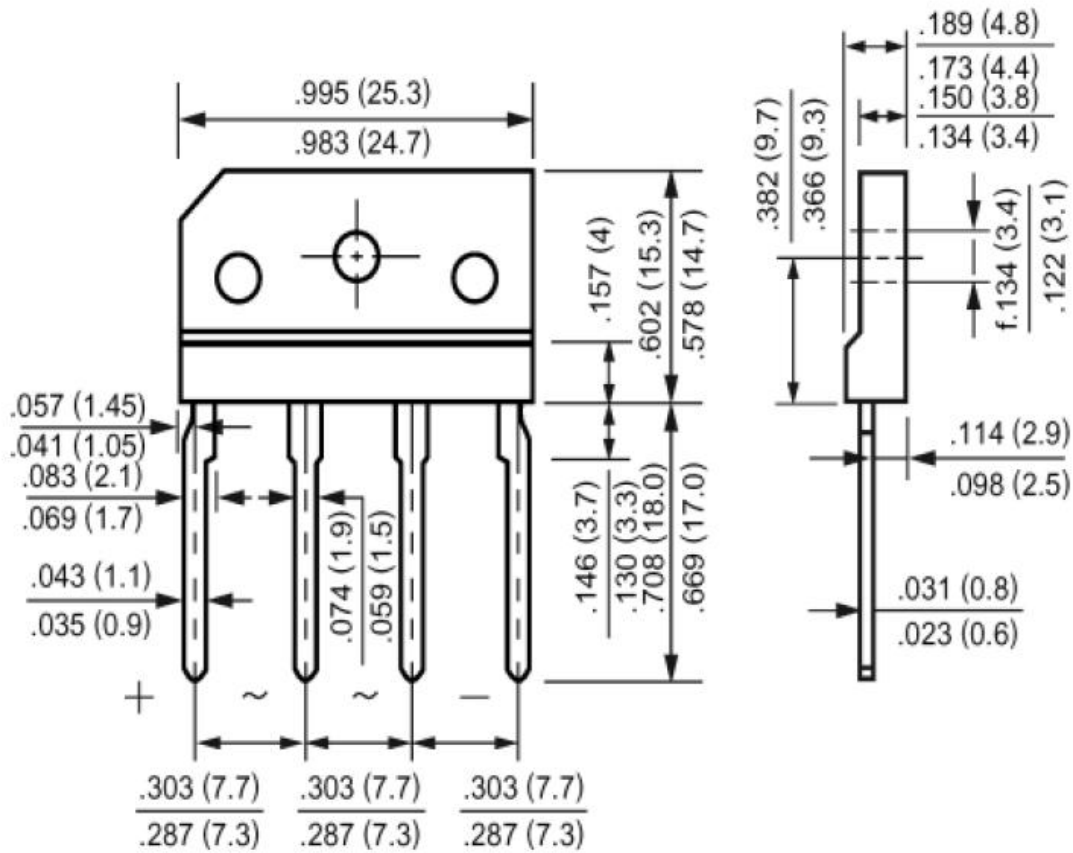


Where XXXXX is YYWWL

SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number  
KBJ10005 = Type Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Mechanical Dimensions KBJ (Inches/Millimeters)**



**Technical Data  
Data Sheet N1831, Rev. A**



**DISCLAIMER:**

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC Diode Solutions sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
- 3- In no event shall SMC Diode Solutions be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC Diode Solution assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall SMC Diode Solutions be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC Diode Solutions.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC Diode Solutions.
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.