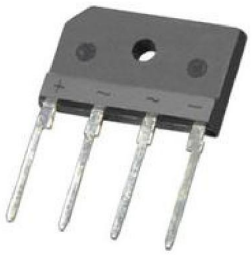
Technical Data
Data Sheet N1819, Rev. A

KBJ6005G THRU KBJ610G
GLASS PASSIVATED SINGLE-PHASE BRIDGE RECTIFIER

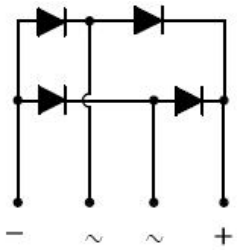


KBJ

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°C unless otherwise specified

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

Type Number	Symbol	KBJ 6005G	KBJ 601G	KBJ 602G	KBJ 604G	KBJ 606G	KBJ 608G	KBJ 610G	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= 110°C	I_O	6.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150							A

KBJ6005G
THRU
KBJ610G

Technical Data
Data Sheet N1819, Rev. A

Electrical Characteristics: @T_A=25°C unless otherwise specified

Type Number	Symbol	KBJ 6005G	KBJ 601G	KBJ 602G	KBJ 604G	KBJ 606G	KBJ 608G	KBJ 610G	Units
Forward Voltage (per element) @I_F =3A @I_F =6A	V_F	1.0 1.1							V
Peak Reverse Current @T_A = 25°C At Rated DC Blocking Voltage @T_A = 125°C	I_{RM}	5.0 500							μA
Typical Junction Capacitance(per leg) (Note 1)	C_J	80							pF

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

Thermal-Mechanical Specifications: @T_A=25°C unless otherwise specified

Type Number	Symbol	KBJ 6005G	KBJ 601G	KBJ 602G	KBJ 604G	KBJ 606G	KBJ 608G	KBJ 610G	Units
Typical Thermal Resistance(Note 2)	$R_{\theta JC}$	1.5							°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150							°C

Note: 1. Measured at 1 MHZ and applied reverse voltage of 4.0 VDC.
2. Thermal Resistance from Junction to Case with Device Mounted on 75mm x 75mm x 1.6mm Cu Plate Heatsink.

Ratings and Characteristics Curves

FIG.1- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER BRIDGE ELEMENT

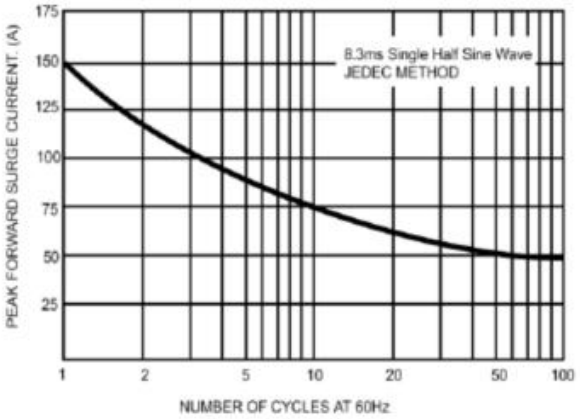
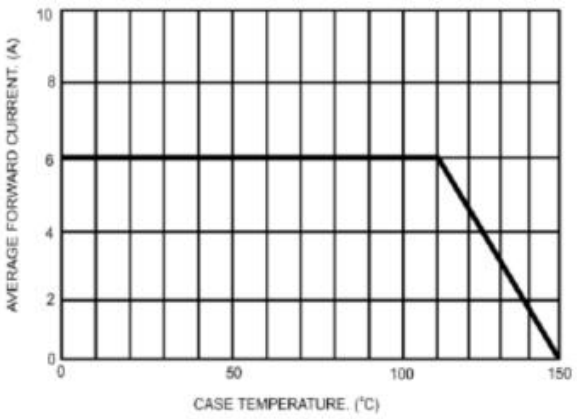


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE



Technical Data
Data Sheet N1819, Rev. A

FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER BRIDGE ELEMENT

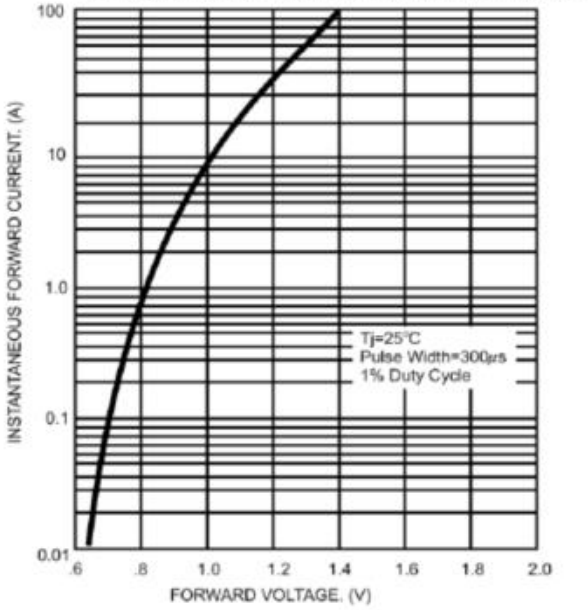
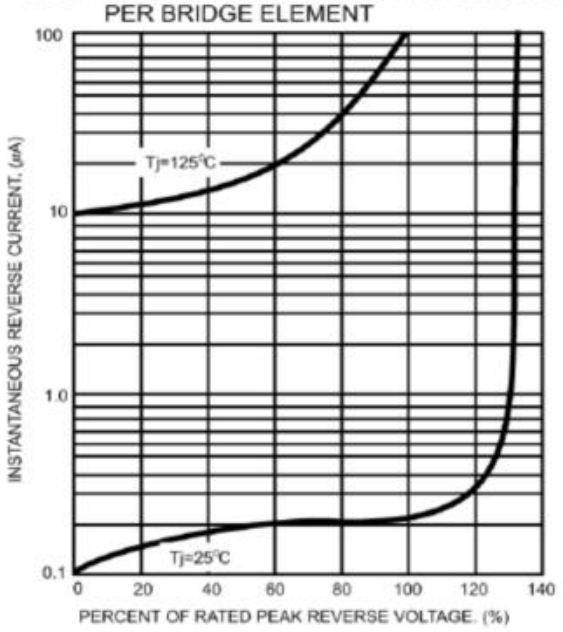


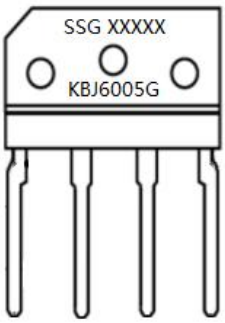
FIG.4- TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT



Ordering Information

Device	Package	Plating	Shipping
KBJ6005G THRU KBJ610G	KBJ (Pb-Free)	Pure Sn	20pcs / Tube

Marking Diagram



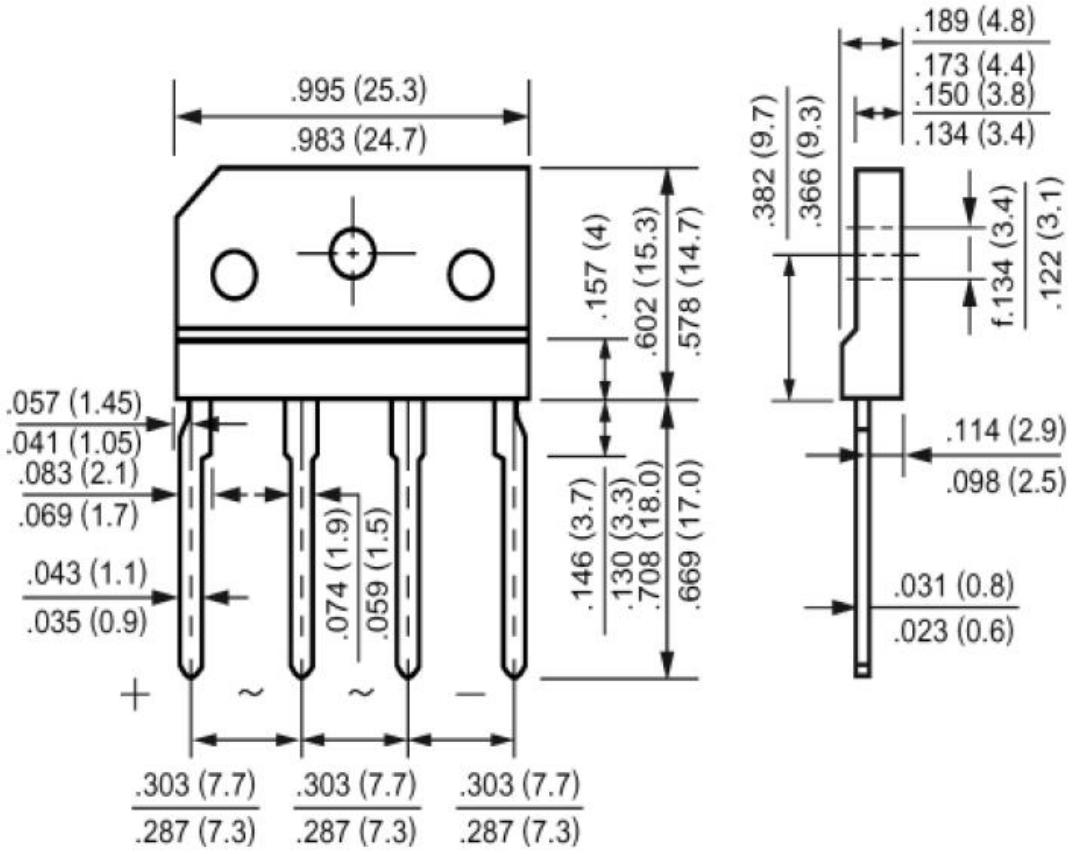
Where XXXXX is YYWWL

SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number
KBJ6005G	= Type Number

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

Technical Data
Data Sheet N1819, Rev. A

Mechanical Dimensions KBJ (Inches/Millimeters)



KBJ6005G
THRU
KBJ610G

Technical Data
Data Sheet N1819, 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.