

## GLASS PASSIVATED BRIDGE RECTIFIERS

**REVERSE VOLTAGE – 600Volts  
FORWARD CURRENT – 15 Amperes**

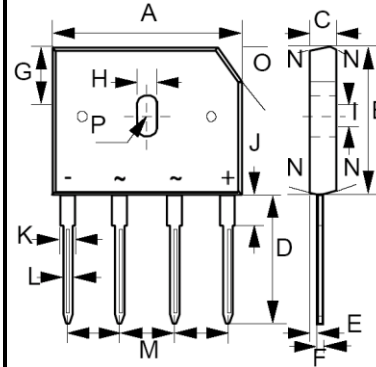
### FEATURES

- Low forward Voltage (VF) Drop performance
- High Thermal Radiation
- High Average Current
- High Surge Current Capability
- UL Recognition file # E95060
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

### MECHANICAL DATA

- Package: GBU
- Package Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Terminals: Lead free plating (Tin finish), Solderable per MIL-STD-202, Method 208 ③
- Polarity indicator: As marked on the body
- Weight: 0.15 ounces, 4.0 grams (Approximate)
- Component in accordance to RoHs 2002/95/EC

### GBU



GBU		
DIM.	MIN.	MAX.
A	21.80	22.30
B	18.30	18.80
C	3.30	3.56
D	17.50	18.00
E	0.76	1.00
F	0.46	0.56
G	7.40	7.90
H	3.50	4.10
I	1.65	2.16
J	2.25	2.75
K	1.95	2.35
L	1.02	1.27
M	4.83	5.33
N	7.0°	TYPICAL
O	3.2 x 45°	
P	1.90 RADIUS	

All Dimensions in millimeter

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

### ABSOLUTE RATINGS

PARAMETER	SYMBOL	GBU15JL	UNIT
Device marking code	Note	GBU15JL	---
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	600	V
Average Rectified Output Current	$I_{F(AV)}$	15 3.7	A
Peak Forward Surge Current	$I_{FSM}$	200	A
8.3ms single half sine-wave	$I_{FSM}$	160	A
Peak Forward Surge Current	$I_{FSM}$	400	A
1.0ms single half sine-wave	$I_{FSM}$	320	A
$I^2t$ Rating for fusing (t = 8.3ms)	$I^2t$	106	A <sup>2</sup> S
Storage temperature range	$T_{STG}$	-55 to +150	°C
Operating junction temperature range	$T_J$	-40 to +150	°C

#### 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.

### STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS		SYMBOL	Min.	Typ.	Max.	UNIT
Breakdown voltage	IR=10uA	Tj=25°C	V <sub>B</sub>	600	---	---	V
Forward Voltage (Note 4)	IF=7.5A	Tj=25°C	V <sub>F</sub>	---	0.86	0.90	V
Leakage Current	VR=600V	Tj=25°C	I <sub>R</sub>	---	---	10	μA
Typical Junction Capacitance per element (Note 5)			C <sub>j</sub>		80		pF

### THERMAL CHARACTERISTICS

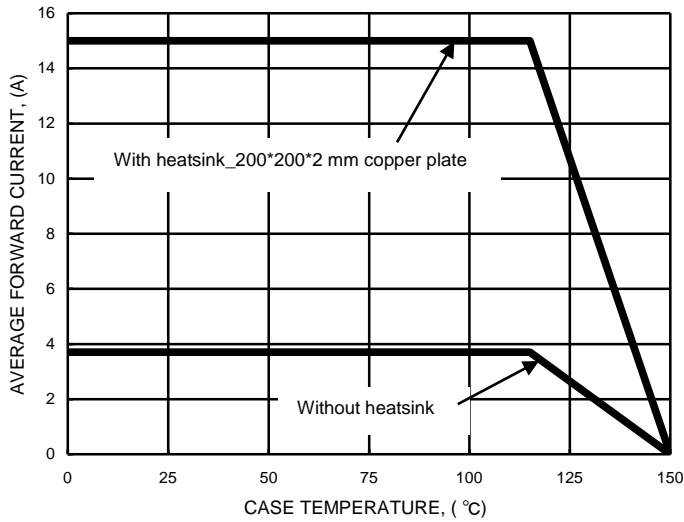
PARAMETER	SYMBOL	Typical	UNIT
Typical Thermal Resistance (without Heatsink)	RthJ <sub>C</sub>	6	°C/W
	RthJ <sub>L</sub>	26	
	RthJ <sub>A</sub>	10	
Typical thermal resistance (Note 6)	RthJ <sub>C</sub>	1.3	°C/W
	RthJ <sub>L</sub>	3	
	RthJ <sub>A</sub>	5	

**Notes :**

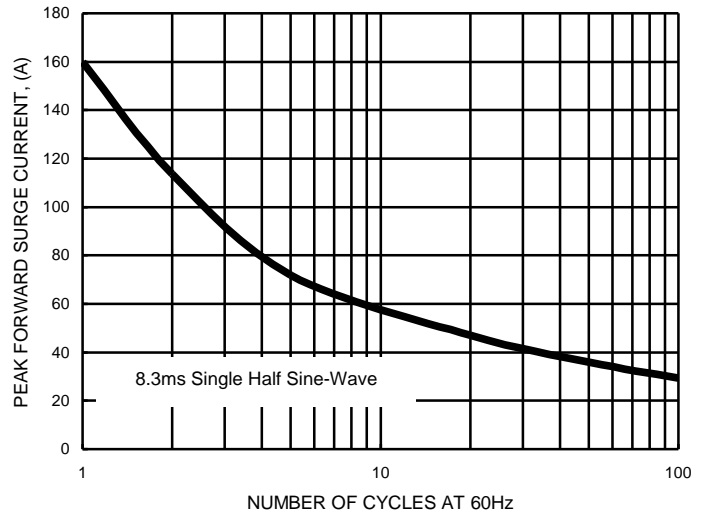
4. 300μs Pulse Width, 2% Duty Cycle.
5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
6. Thermal Resistance Junction to case and lead, device mounted on 200 x 200 x 2 mm copper plate.

**RATING AND CHARACTERISTIC CURVES**  
**GBU15JL**

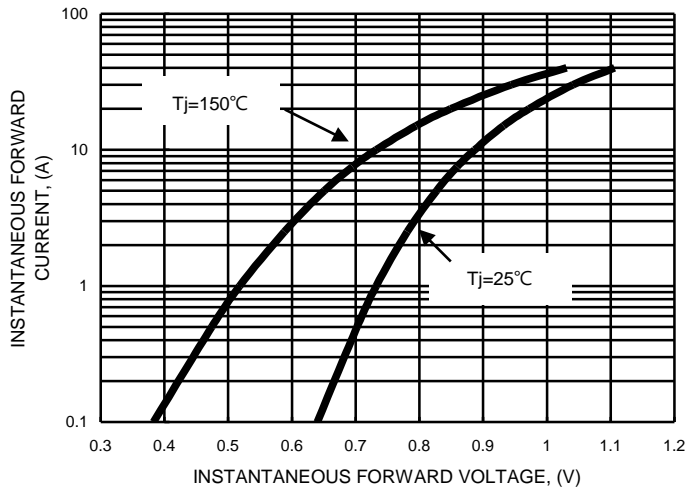
**FIG.1- FORWARD CURRENT DERATING CURVE**



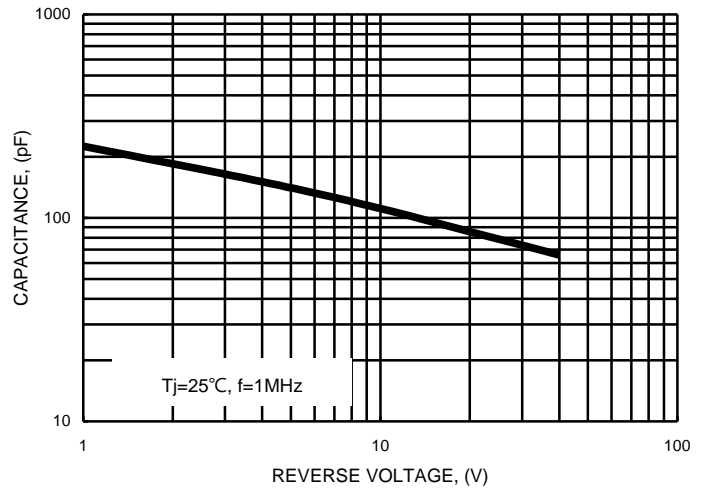
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



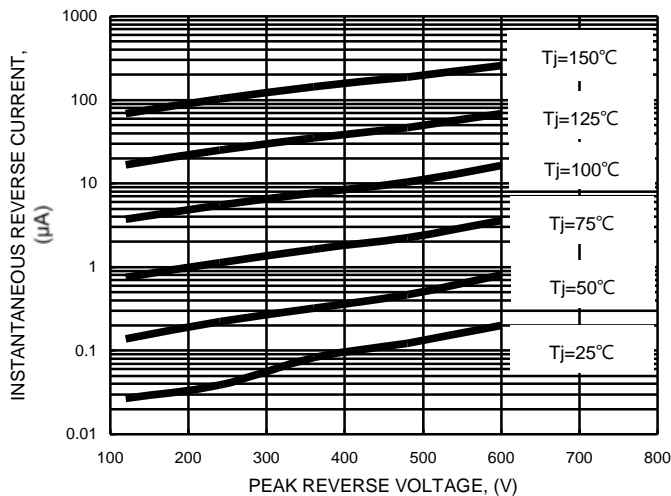
**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



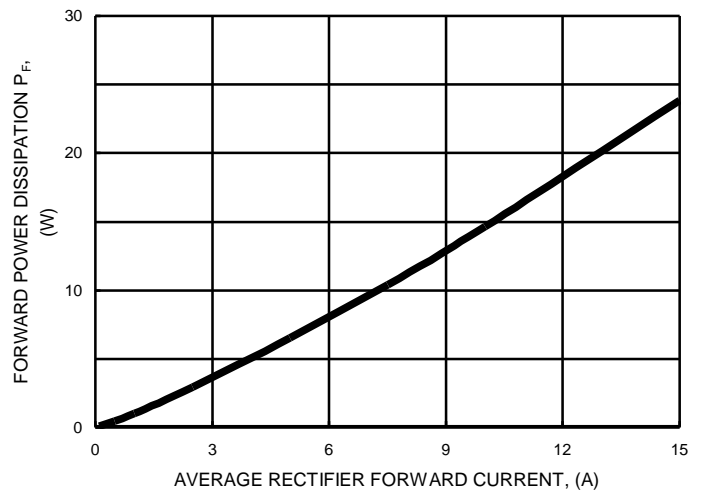
**FIG.4- TYPICAL JUNCTION CAPACITANCE**



**FIG.5- TYPICAL REVERSE CHARACTERISTICS**

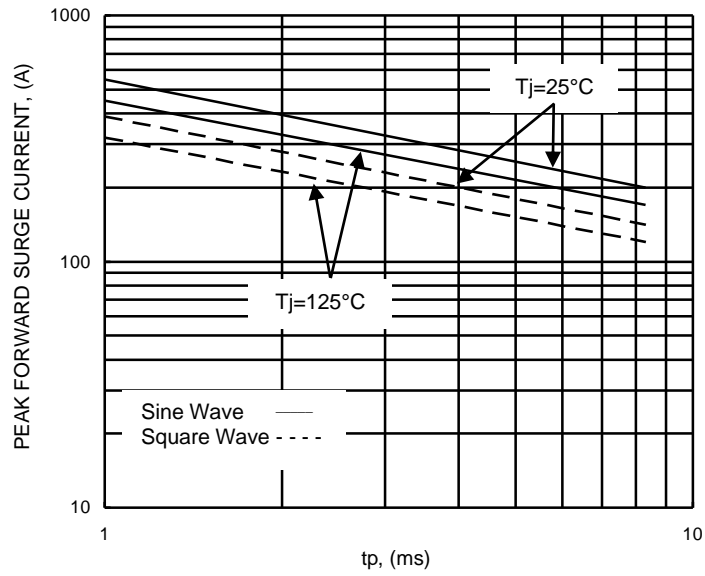


**FIG.6- FORWARD POWER DISSIPATION**



**RATING AND CHARACTERISTIC CURVES**  
**GBU15JL**

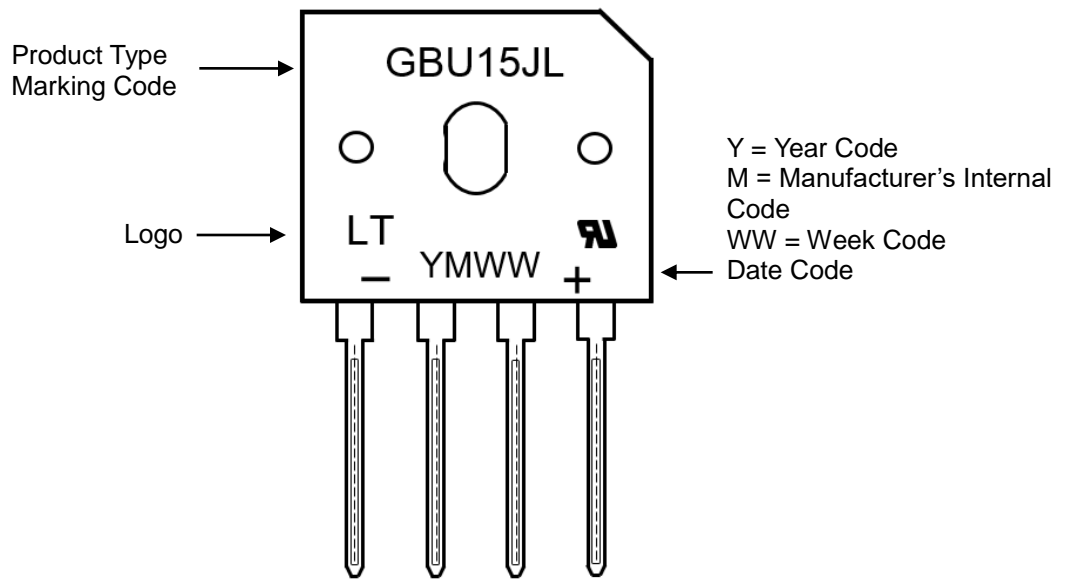
**FIG.7\_NON-REPETITIVE SURGE CURRENT**



### Ordering Information :

Part Number	Package	Packing	
		Qty.	Carrier
GBU15JL_HF	GBU	20	Tube

### Marking Information :



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