# LITE ON SEMICONDUCTOR

### GBU1504 thru GBU1510

#### **GLASS PASSIVATED BRIDGE RECTIFIERS**

#### REVERSE VOLTAGE - 400 to 1000 Volts FORWARD CURRENT - 15 Amperes

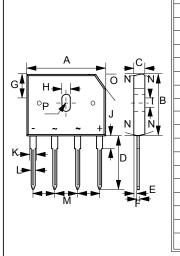
GBU

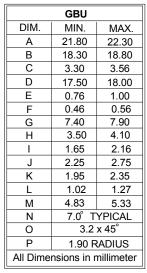
#### FEATURES

- Rating to 1000V PRV
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- The plastic material has UL flammability classification 94V-0
- UL Recognition File # E95060

#### **MECHANICAL DATA**

- Polarity : As marked on Body
- Weight : 0.15 ounces, 4.0 grams
- Mounting position : Any





#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25  $^\circ\!\!\!\!^\circ C$  ambient temperature unless otherwise specified.

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CHARACTERISTICS	SYMBOL	GBU 1504	GBU 1506	GBU 1508		GBU 1510	UNIT
Maximum Recurrent Peak Reverse Voltage	VRRM	400	600	800		1000	V
Maximum RMS Voltage	VRMS	280	420	560		700	V
Maximum DC Blocking Voltage	VDC	400	600	800		1000	V
Maximum Average Forward (with heatsink Note 2) Rectified Current @Tc=100°C (without heatsink)		15 3.2					A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	IFSM	200					A
Maximum forward Voltage at 7.5A DC	VF	1.1					V
Maximum DC Reverse Current at Rated DC Blocking Voltage $@T_J = 25^{\circ}C$ $@T_J = 125^{\circ}C$	IR	5.0 500					uA
I <sup>2</sup> t Rating for fusing (t < 8.3ms)	l <sup>2</sup> t	166					A <sup>2</sup> S
Typical Junction Capacitance per element (Note 1)	Сл	50					pF
Typical Thermal Resistance (Note 2)	Rejc	2.0					°C/W
Operating Temperature Range	TJ	-55 to +150					°C
Storage Temperature Range	Tstg	-55 to +150					°C
NOTEC : 1 Macaunal at 1 0ML and explicit square values of 1 0V/DC						Son 2010 K	

NOTES : 1.Measured at 1.0MHz and applied reverse voltage of 4.0V DC. 2.Device mounted on 200mm x 200mm x 5mm Al Plate Heatsink. REV. 1, Sep-2010, KBDJ08

## RATING AND CHARACTERISTIC CURVES GBU1504 thru GBU1510

#### FIG.1 - FORWARD CURRENT DERATING CURVE FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT PEAK FORWARD SURGE CURRENT, AMPERES 20 AVERAGE FORWARD CURRENT AMPERES 250 WITH HEATSINK 15 200 SINGLE PHASE HALF WAVE 60Hz RESISTIVE OR INDUCTIVE LOAD 10 150 5 100 WITHOUT HEATSINK Single Half-Sine-Wave 50 100 0 50 2 5 0 25 50 75 100 125 150 10 NUMBER OF CYCLES AT 60Hz CASE TEMPERATURE ,°C FIG.3 - TYPICAL REVERSE CHARACTERISTICS FIG.4 - TYPICAL FORWARD CHARACTERISTICS 100 100 INSTANTANEOUS REVERSE CURRENT, (uA) INSTANTANEOUS FORWARD CURRENT, (A) 10 TJ = 125 °C 10 1 --TJ = 75℃ TJ = 25℃ 1 0.1 \_TJ = 25℃ PULSE WIDTH 300us 0.01 0.1 0.4 0.6 0.8 1.0 1.2 1.4 0 20 40 60 80 100 120 PERCENT OF RATED PEAK REVERSE VOLTAGE, (%) INSTANTANEOUS FORWARD VOLTAGE, VOLTS FIG.5 - TYPICAL JUNCTION CAPACITANCE 100 CAPACITANCE, (pF) 10 TJ = 25 °C, f = 1MHz 1 1 10 100 **REVERSE VOLTAGE**, VOLTS

## **LITE ON**



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