YEA SHIN TECHNOLOGY CO., LTD

GBU4A THRU GBU4M
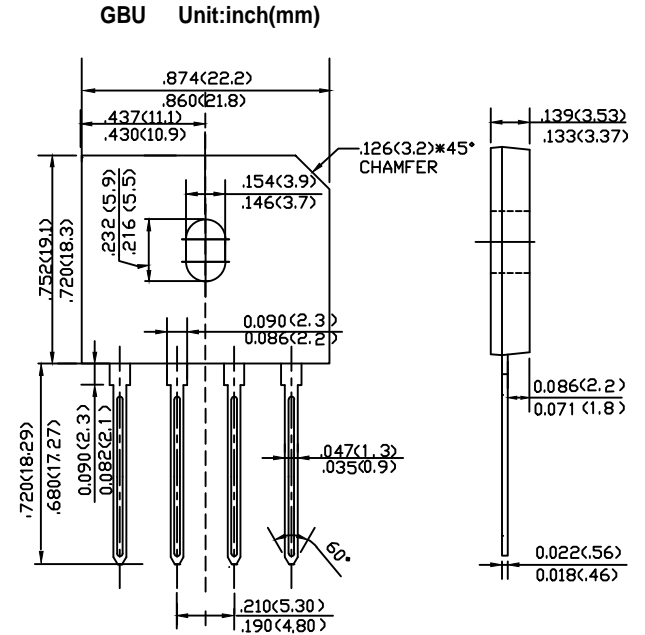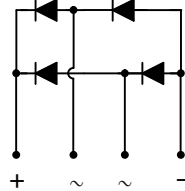
GLASS PASSIVATED SINGLE-PHASE BRIDGE RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 4.0 Amperes

FEATURES

- Glass passivated die construction
- Low forward voltage drop
- High current capability
- High surge current capability
- Plastic material-UL flammability 94V-0

MECHANICAL DATA

- Case: GBU, molded plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Case
- Mounting Position: Any
- Marking: Type Number
- Lead Free: For ROHS / Lead Free Version

GBU   Unit:inch(mm)

Maximum Rating and Electrical Characteristics

Rating at 25℃ ambient temperature unless otherwise specified.
Single Phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

TYPE NUMBER	SYMBOL	GBU 4A	GBU 4B	GBU 4D	GBU 4G	GBU 4J	GBU 4K	GBU 4M	UNIT
Peak Repetitive Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V_{RWM}								
DC Blocking Voltage	V_{DC}								
RMS Reverse Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 1) @Tc=90℃	$I_{F(AV)}$	4.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	120							A
Forward Voltage per element @IF=2A @IF=4A	V_F	1.0 1.1							V
Peak Reverse Current @T_A=25℃ At Rated DC Blocking Voltage @T_A=125℃	I_R	5.0 500							uA
I^2t Raging for fusing (t<8.3ms)	I^2t	59.7							A^2s
Typical Junction Capacitance per leg (Note 2)	C_J	65							pF
Typical Thermal Resistance per leg (Note 3)	$R_{\theta JA}$	31							℃/W
	$R_{\theta JL}$	7.6							
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150							℃

Note:1. Mounted on glass epoxy PC board with 1.3mm[2] solder pad.
    2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.
    3. Device mounted on 50mm x 50mm x 1.6mm Cu Plate Heatsink.

DEVICE CHARACTERISTICS

GBU4A THRU GBU4M

Fig. 1 Output Current Derating Curve

$I_{(AV)}$, AVERAGE FORWARD RECTIFIED CURRENT (A)

T_C,CASE TEMPERATURE , (℃)

Fig. 2 Typical Forward Characteristics (per leg)

I_F, INSTANTANEOUS FORWARD CURRENT (A)

T_A= 25℃
Pulse Width = 300µs

V_F, INSTANTANEOUS FORWARD VOLTAGE (V)

Fig. 3 Maximum Peak Forward Surge Current (per leg)

I_{FSM}, PEAK FORWARD SURGE CURRENT (A)

T_A = 25°C
Single Half Sine-Wave
Pulse Width = 8.3ms
(JEDEC Method)

NUMBER OF CYCLES AT 60 Hz

Fig. 4 Typical Junction Capacitance

INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

T_A=25°C

PERCENT OF RATED PEAK REVERSE VOLTAGE