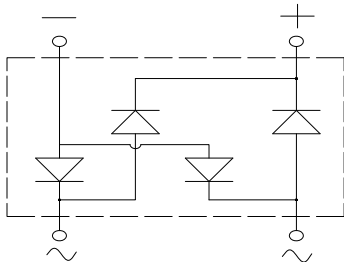
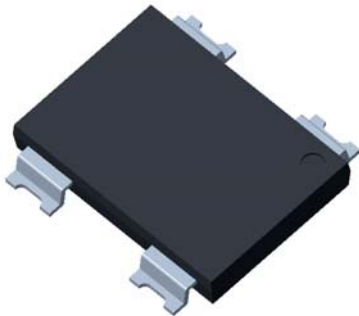


## Fast Recovery Bridge Rectifiers



### Features

- UL recognition, file #E313149
- Glass passivated chip junction
- Ideal for automated placement
- High surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

### Typical Applications

General purpose use in AC/DC bridge full wave rectification for SMPS, lighting ballaster, adapter, battery charger, home appliances, office equipment, and telecommunication applications.

### Mechanical Data

- **Package:** YBS2G  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, Halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked on body

### ■Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified )

| PARAMETER                                                                                     | SYMBOL           | UNIT             | RYBSA3010A |
|-----------------------------------------------------------------------------------------------|------------------|------------------|------------|
| Device marking code                                                                           |                  |                  | RYBSA3010A |
| Maximum Repetitive Peak Reverse Voltage                                                       | V <sub>RRM</sub> | V                | 1000       |
| Maximum RMS Voltage                                                                           | V <sub>RMS</sub> | V                | 700        |
| Maximum DC blocking Voltage                                                                   | V <sub>DC</sub>  | V                | 1000       |
| Average rectified output current<br>@60Hz sine wave, R-load, T <sub>c</sub> =110°C            | I <sub>o</sub>   | A                | 3.0        |
| Forward Surge Current (Non-repetitive)<br>@60Hz Half-sine wave, 1 cycle, T <sub>j</sub> =25°C | I <sub>FSM</sub> | A                | 100        |
| Forward Surge Current (Non-repetitive)<br>@1ms, square wave, 1 cycle, T <sub>j</sub> =25°C    |                  |                  | 200        |
| Current squared time<br>@1ms≤t<8.3ms T <sub>j</sub> =25°C, Rating of per diode                | I <sup>2</sup> t | A <sup>2</sup> s | 50.2       |
| Storage temperature                                                                           | T <sub>stg</sub> | °C               | -55 ~ +150 |
| Junction temperature                                                                          | T <sub>j</sub>   | °C               | -55 ~ +150 |



# RYBSA3010A

## ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                                         | SYMBOL          | UNIT | TEST CONDITIONS                                                    | RYBSA3010A |
|-------------------------------------------------------------------|-----------------|------|--------------------------------------------------------------------|------------|
| Maximum reverse recovery time                                     | t <sub>rr</sub> | ns   | I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A | 500        |
| Maximum instantaneous forward voltage drop per diode              | V <sub>F</sub>  | V    | I <sub>FM</sub> =1.5A                                              | 1.3        |
| Maximum DC reverse current at rated DC blocking voltage per diode | I <sub>R</sub>  | μA   | T <sub>j</sub> =25°C                                               | 5          |
|                                                                   |                 |      | T <sub>j</sub> =125°C                                              | 100        |
| Typical junction capacitance                                      | C <sub>j</sub>  | pF   | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C          | 36         |

## ■Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

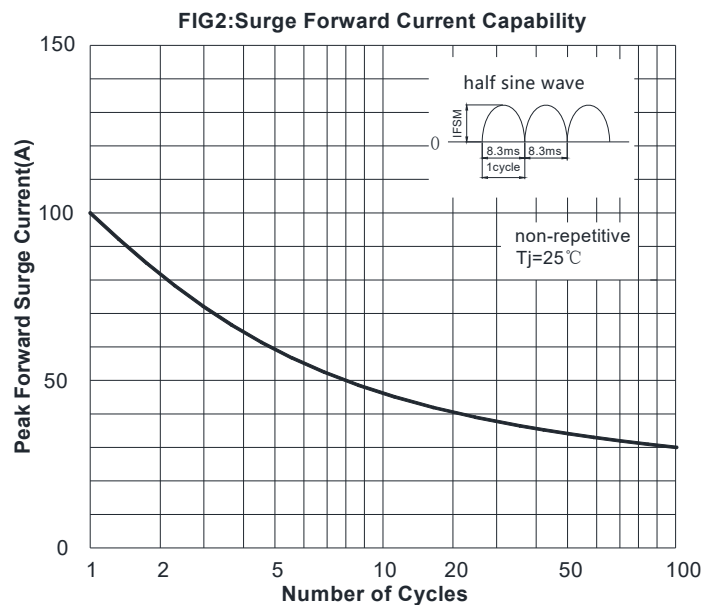
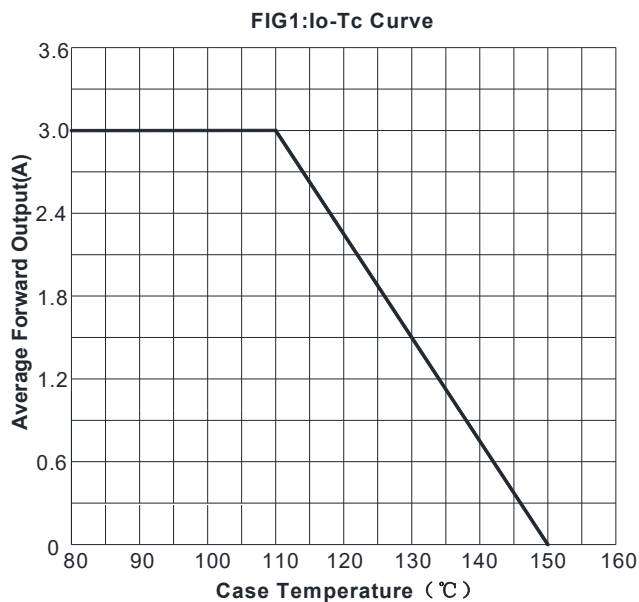
| PARAMETER                  |                              | SYMBOL           | UNIT | RYBSA3010A |
|----------------------------|------------------------------|------------------|------|------------|
| Typical Thermal Resistance | Between Junction and Ambient | R <sub>θJA</sub> | °C/W | 55         |
|                            | Between Junction and Lead    | R <sub>θJL</sub> |      | 11         |
|                            | Between Junction and Case    | R <sub>θJC</sub> |      | 7          |

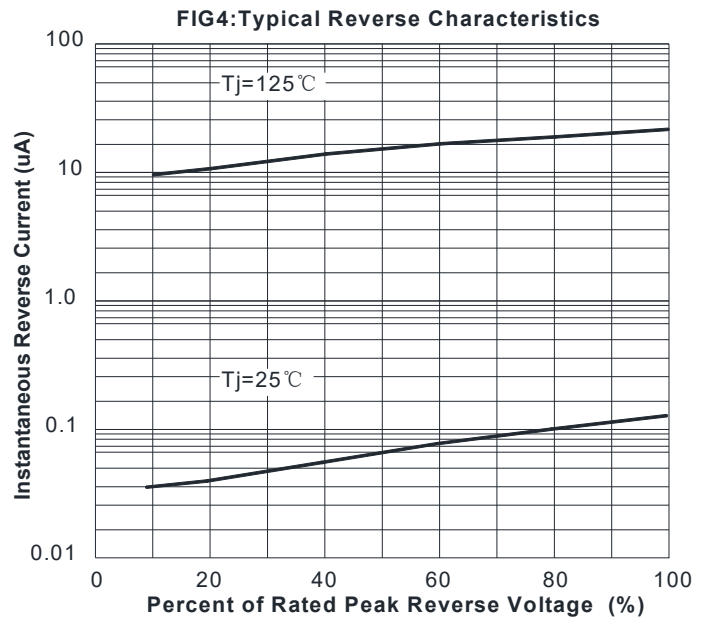
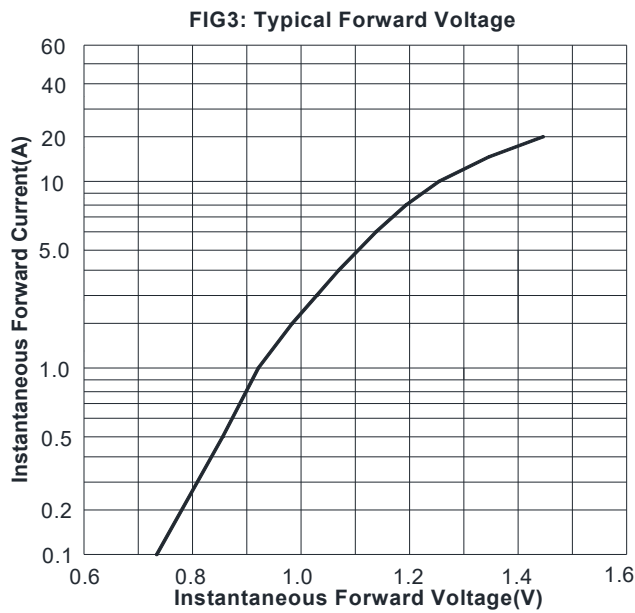
Note: Device mounted on P.C.B with 35mm\*25mm\*1.7mm.

## ■Ordering Information (Example)

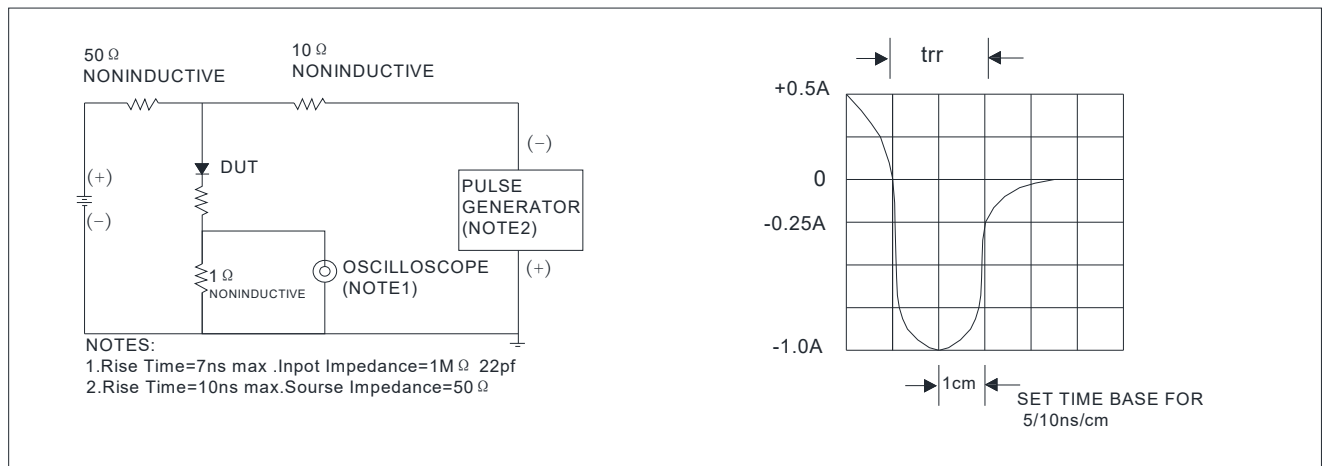
| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| RYBSA3010A    | F1           | Approximate 0.274 | 2500                 | /                       | 35000                      | 13" reel      |

## ■ Characteristics (Typical)



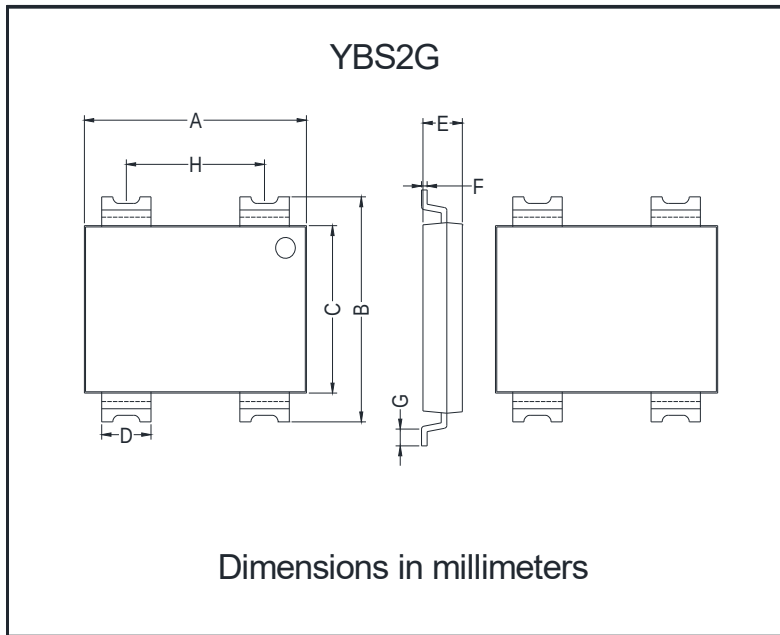


**FIG.5: Diagram of circuit and Testing wave form of reverse recovery time**



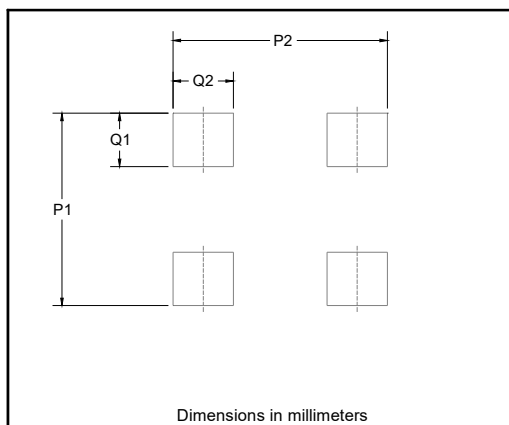


## ■ Outline Dimensions



| YBS2G |      |      |
|-------|------|------|
| Dim   | Min  | Max  |
| A     | 8.6  | 9.2  |
| B     | 8.3  | 8.9  |
| C     | 6.2  | 6.6  |
| D     | 1.85 | 2.15 |
| E     | 1.35 | 1.75 |
| F     | 0.1  | 0.3  |
| G     | 0.4  | 0.8  |
| H     | 5.4  | 5.8  |

## ■ Suggested pad layout



| YBS2G |     |
|-------|-----|
| Dim   | Min |
| P1    | 11  |
| P2    | 7.8 |
| Q1    | 2.4 |
| Q2    | 2.2 |



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