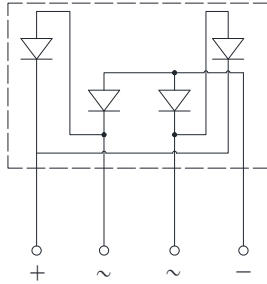
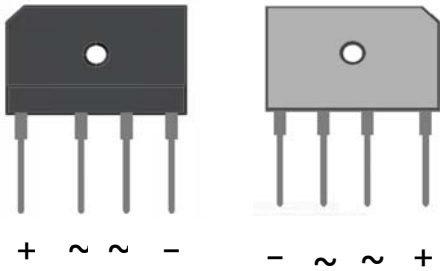


## Super Fast Recovery Bridge Rectifiers



### Features

- UL recognition, file #E230084
- Glass passivated chip junction
- Thin single in-line package
- High surge current capability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

### Typical Applications

General purpose use in AC/DC bridge full wave rectification for switching power supply, home appliances, office equipment, industrial automation applications.

### Mechanical Data

- **Package:** PB  
Molding compound meets UL 94 V-0 flammability rating, -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             | EPB3506    |
|----------------------------------------------------------------------------------------------|------------------------------------------|------------------------------|------------------|------------|
| Device marking code                                                                          |                                          |                              |                  | EPB3506    |
| Maximum Repetitive Peak Reverse Voltage                                                      |                                          | V <sub>RRM</sub>             | V                | 600        |
| Maximum RMS Voltage                                                                          |                                          | V <sub>RMS</sub>             | V                | 420        |
| Maximum DC blocking Voltage                                                                  |                                          | V <sub>DC</sub>              | V                | 600        |
| Average rectified output current @60Hz sine wave, R-load,                                    | With heatsink<br>T <sub>c</sub> =105°C   | I <sub>O</sub>               | A                | 35.0       |
|                                                                                              | Without heatsink<br>T <sub>a</sub> =25°C |                              |                  | 3.5        |
| Forward Surge Current (Non-repetitive)<br>@60Hz Half-sine wave,1 cycle, T <sub>j</sub> =25°C |                                          | I <sub>F</sub> <sub>SM</sub> | A                | 350        |
| Forward Surge Current (Non-repetitive)<br>@1ms, square wave, 1 cycle, T <sub>j</sub> =25°C   |                                          |                              |                  | 700        |
| 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 | 508        |
| Storage temperature                                                                          |                                          | T <sub>stg</sub>             | °C               | -55 ~ +150 |
| Junction temperature                                                                         |                                          | T <sub>j</sub>               | °C               | -55 ~ +150 |
| Dielectric strength<br>@ Terminals to case, AC 1 minute                                      |                                          | V <sub>dis</sub>             | KV               | 2.5        |
| Mounting torque<br>@Recommend torque: 5kg·cm                                                 |                                          | Tor                          | kg·cm            | 8          |

# EPB3506

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

| PARAMETER                                                         | SYMBOL          | UNIT | TEST CONDITIONS                                                    | EPB3506 |
|-------------------------------------------------------------------|-----------------|------|--------------------------------------------------------------------|---------|
| 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 | 50      |
| Maximum instantaneous forward voltage drop per diode              | V <sub>F</sub>  | V    | I <sub>FM</sub> =17.5A                                             | 2.0     |
| 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          | 175     |

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

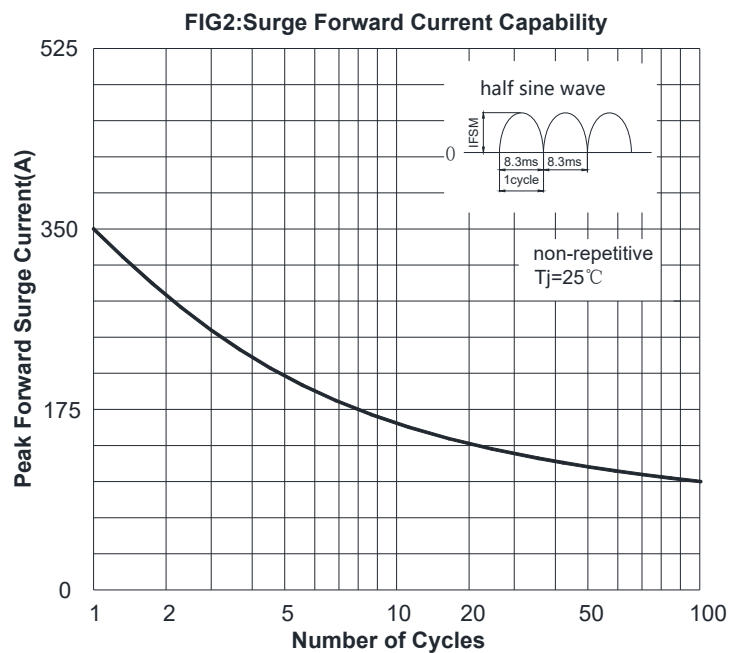
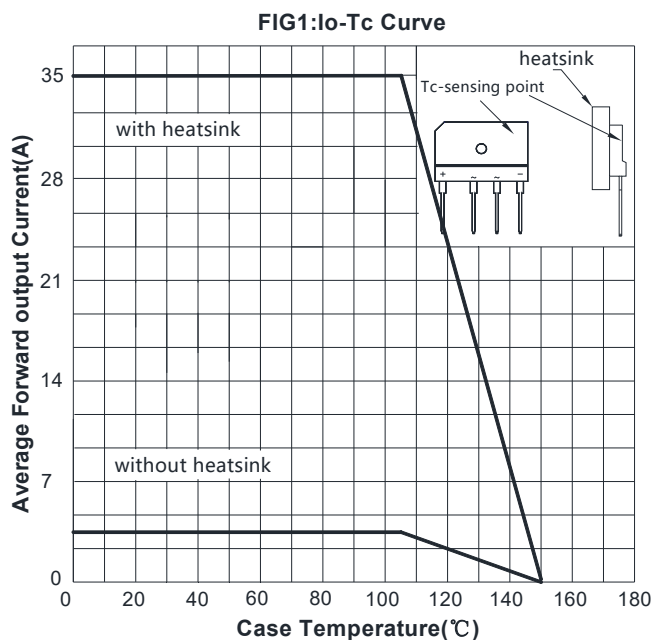
| PARAMETER                  |                                                | SYMBOL           | UNIT | EPB3506 |
|----------------------------|------------------------------------------------|------------------|------|---------|
| Typical Thermal Resistance | Between junction and ambient, Without heatsink | R <sub>θJA</sub> | °C/W | 17.0    |
|                            | Between junction and case, With heatsink       | R <sub>θJC</sub> |      | 0.8     |

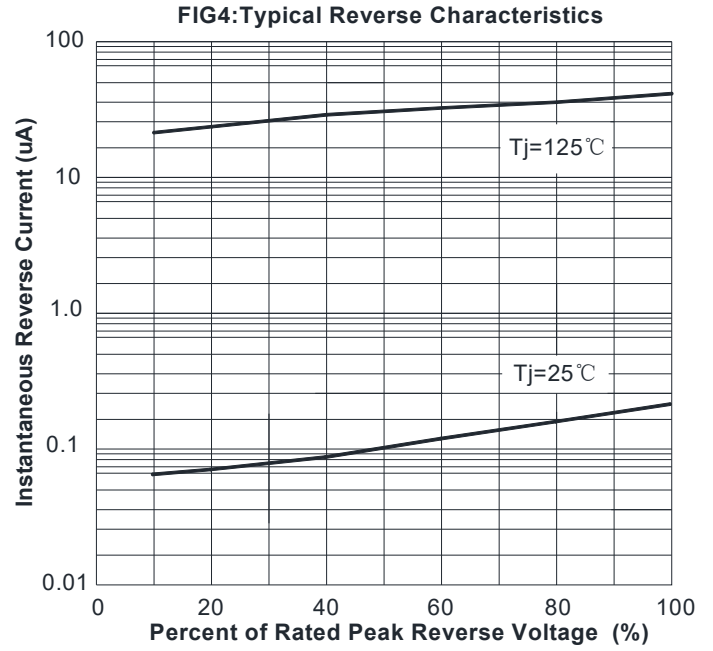
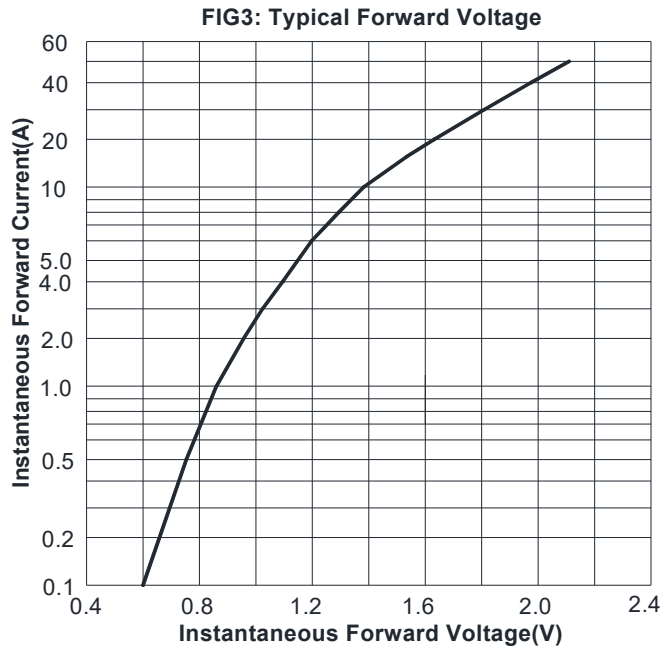
Note: Device mounted on 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

## ■Ordering Information (Example)

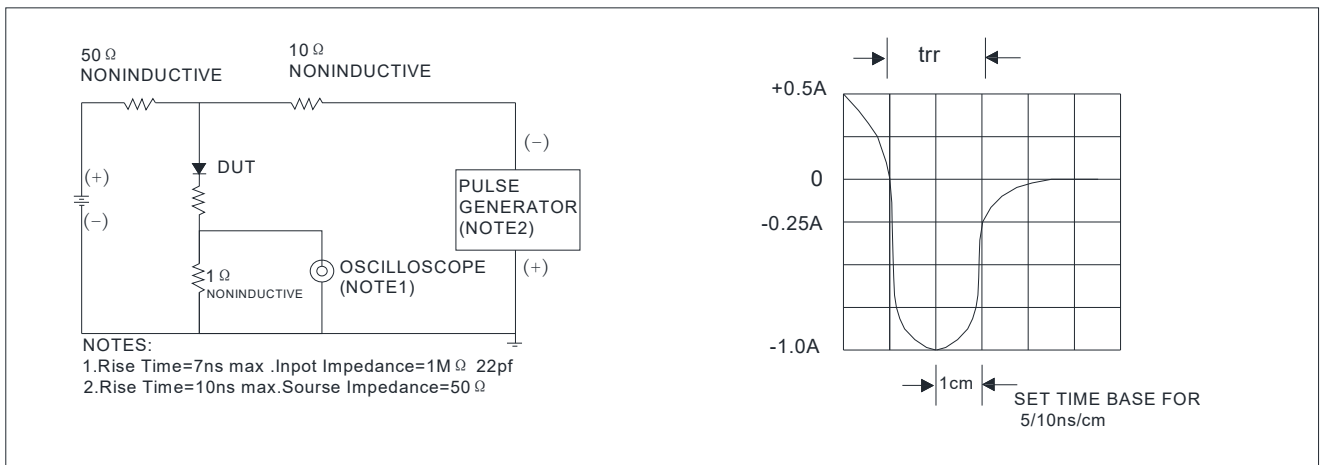
| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g)  | MINIIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-----------------|-----------------------|-------------------------|----------------------------|---------------|
| EPB3506       | B1           | Approximate 7.5 | 15                    | 750                     | 1500                       | TUBE          |

## ■ Characteristics (Typical)

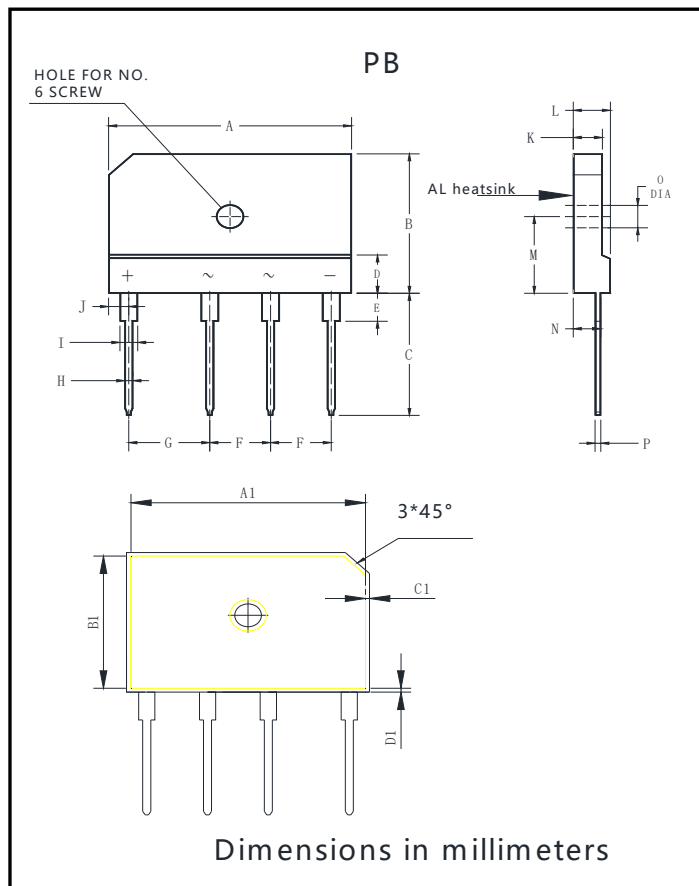




**FIG.5: Diagram of circuit and Testing wave form of reverse recovery time**



■ Outline Dimensions



| PB  |       |       |
|-----|-------|-------|
| Dim | Min   | Max   |
| A   | 29.7  | 30.3  |
| B   | 19.7  | 20.3  |
| C   | 17.0  | 18.0  |
| D   | 4.8   | 5.8   |
| E   | 3.8   | 4.2   |
| F   | 7.3   | 7.7   |
| G   | 9.8   | 10.2  |
| H   | 0.9   | 1.1   |
| I   | 2.0   | 2.4   |
| J   | 2.3   | 2.7   |
| K   | 3.4   | 3.8   |
| L   | 4.4   | 4.8   |
| M   | 10.8  | 11.2  |
| N   | 3.1   | 3.7   |
| O   | 3.1   | 3.4   |
| P   | 0.6   | 0.8   |
| A1  | 28.75 | 29.15 |
| B1  | 18.75 | 19.15 |
| C1  | 0.3   | 0.7   |
| D1  | 0.3   | 0.7   |

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