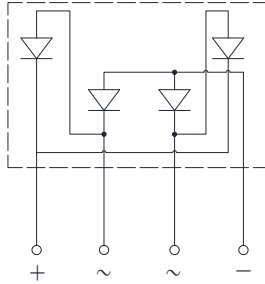
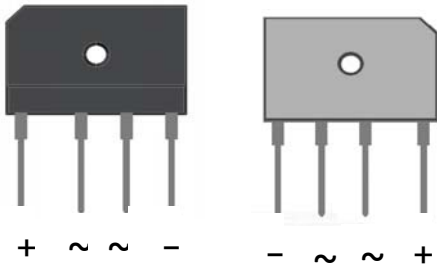


## Bridge Rectifiers



### Features

- UL recognition, file #E230084
- 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, RoHS-compliant
- **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             | PB50005             | PB50001 | PB50002 | PB50004 | PB50006 | PB50008 | PB50010 |
|------------------------------------------------------------------------------------------|------------------------------------------|------------------|------------------|---------------------|---------|---------|---------|---------|---------|---------|
| Device marking code                                                                      |                                          |                  |                  | PB50005             | PB50001 | PB50002 | PB50004 | PB50006 | PB50008 | PB50010 |
| Repetitive peak reverse voltage                                                          |                                          | V <sub>RRM</sub> | V                | 50                  | 100     | 200     | 400     | 600     | 800     | 1000    |
| Average rectified output current @60Hz sine wave, R-load,                                | With heatsink<br>T <sub>c</sub> =84°C    | I <sub>O</sub>   | A                | 50.0 <sup>(1)</sup> |         |         |         |         |         |         |
|                                                                                          | Without heatsink<br>T <sub>a</sub> =25°C |                  |                  | 4.5                 |         |         |         |         |         |         |
| Surge(non-repetitive)forward current @60Hz half sine wave, 1 cycle, T <sub>j</sub> =25°C |                                          | I <sub>FSM</sub> | A                | 450                 |         |         |         |         |         |         |
| Current squared time @1ms≤t≤8.3ms T <sub>j</sub> =25°C, Rating of per diode              |                                          | I <sup>2</sup> t | A <sup>2</sup> s | 840                 |         |         |         |         |         |         |
| Storage temperature                                                                      |                                          | T <sub>stg</sub> | °C               | -55 ~+150           |         |         |         |         |         |         |
| Junction temperature                                                                     |                                          | T <sub>j</sub>   | °C               | -55 ~+150           |         |         |         |         |         |         |
| Dielectric strength @ terminals to case, AC 1 minute                                     |                                          | V <sub>dis</sub> | KV               | 2.5                 |         |         |         |         |         |         |
| Mounting torque @recommend torque: 5kg·cm                                                |                                          | T <sub>or</sub>  | kg·cm            | 8                   |         |         |         |         |         |         |

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

| PARAMETER                                                         | SYMBOL           | UNIT | TEST CONDITIONS                   | PB50005 | PB50001 | PB50002 | PB50004 | PB50006 | PB50008 | PB50010 |
|-------------------------------------------------------------------|------------------|------|-----------------------------------|---------|---------|---------|---------|---------|---------|---------|
| Maximum instantaneous forward voltage drop per diode              | V <sub>F</sub>   | V    | I <sub>FM</sub> =25.0A            | 1.1     |         |         |         |         |         |         |
| Maximum DC reverse current at rated DC blocking voltage per diode | I <sub>RRM</sub> | μA   | V <sub>RM</sub> =V <sub>RRM</sub> | 5       |         |         |         |         |         |         |



## PB50005 THRU PB5010

### ■ Thermal Characteristics ( $T_a=25^{\circ}\text{C}$ Unless otherwise specified)

| PARAMETER          |                                                   | SYMBOL          | UNIT                 | PB50005             | PB5001 | PB5002 | PB5004 | PB5006 | PB5008 | PB5010 |
|--------------------|---------------------------------------------------|-----------------|----------------------|---------------------|--------|--------|--------|--------|--------|--------|
| Thermal Resistance | Between junction and ambient,<br>Without heatsink | $R_{\theta JA}$ | $^{\circ}\text{C/W}$ | 18.0                |        |        |        |        |        |        |
|                    | Between junction and case,<br>With heatsink       | $R_{\theta JC}$ |                      | 0.70 <sup>(1)</sup> |        |        |        |        |        |        |

Note1: Unit Mounted on 100\*50\*2mm aluminum Plate Heatsink

### ■ Ordering Information (Example)

| PREFERRED P/N       | PACKING CODE | UNIT WEIGHT(g)  | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------------|--------------|-----------------|----------------------|-------------------------|----------------------------|---------------|
| PB50005 THRU PB5010 | B1           | Approximate 7.5 | 15                   | 750                     | 1500                       | TUBE          |

### ■ Characteristics (Typical)

FIG1:  $I_o$ - $T_c$  Curve

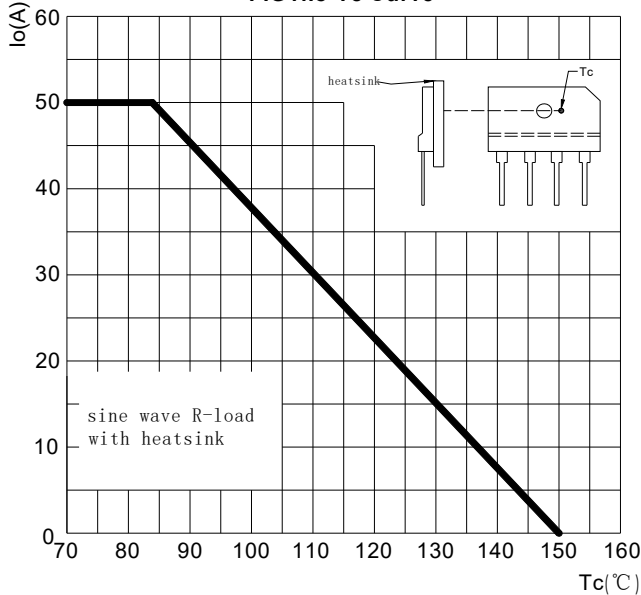


FIG2: Surge Forward Current Capability

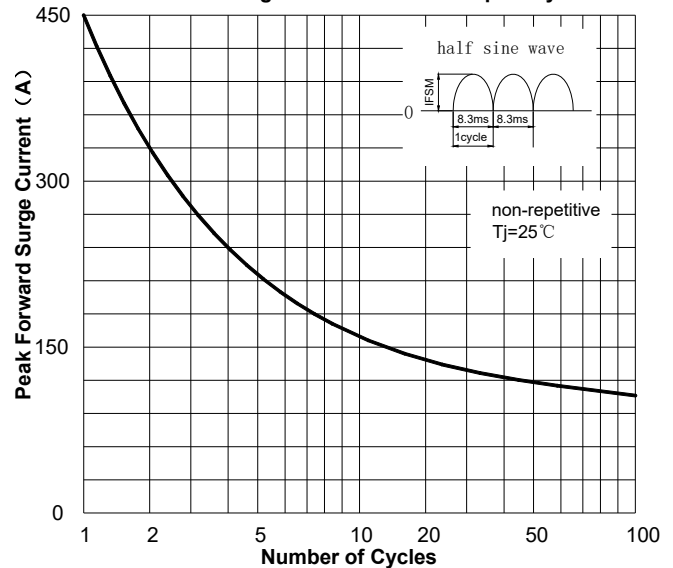


FIG3: Forward Voltage

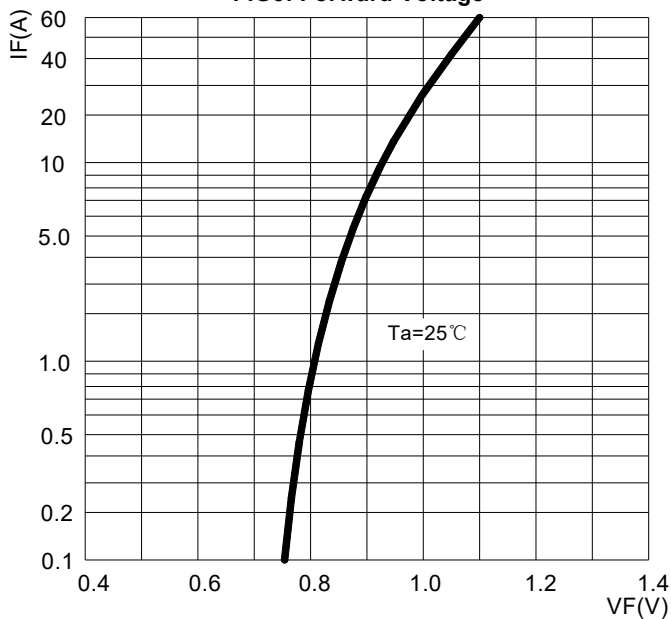
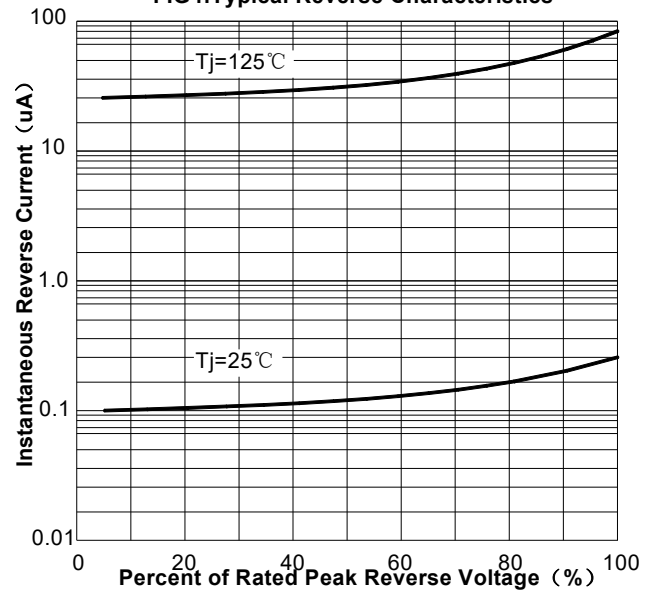


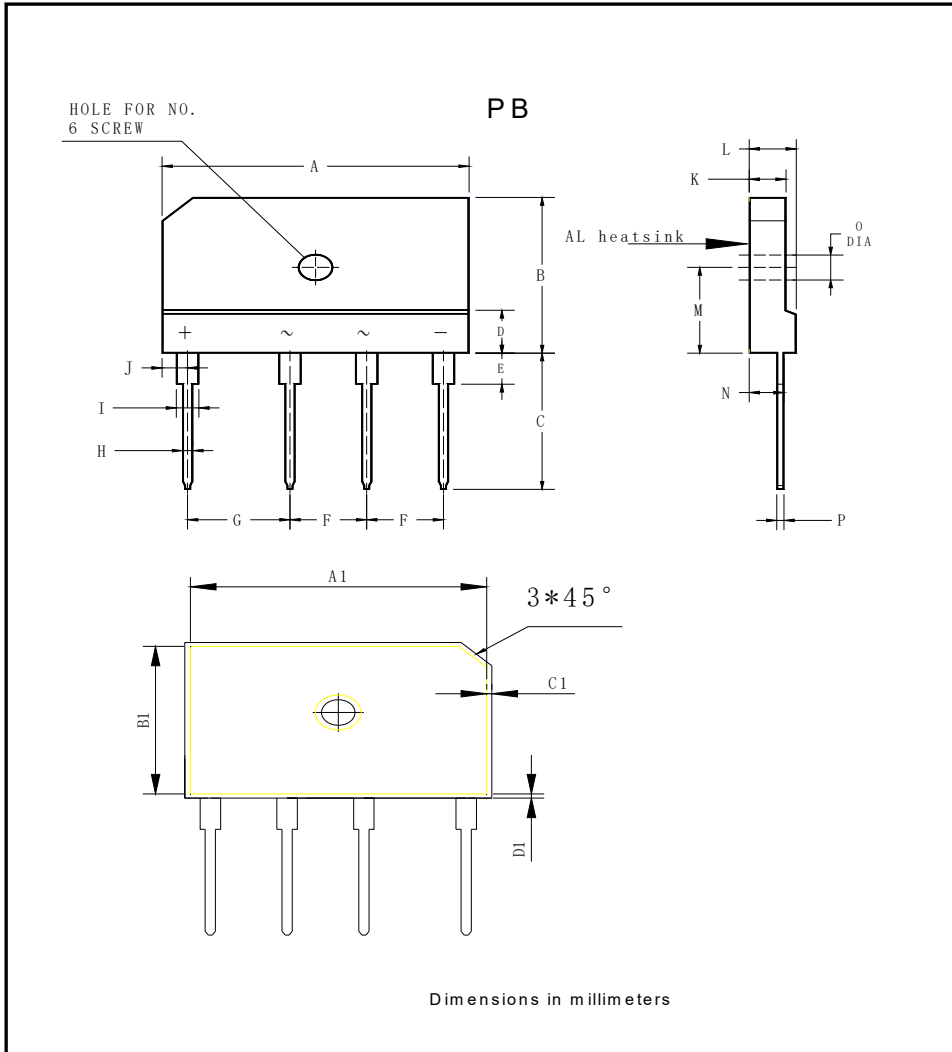
FIG4: Typical Reverse Characteristics





## PB50005 THRU PB5010

### ■ 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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