# RB151G THRU RB157G

## List

Formosa MS

# RB151G THRU RB157G

## 1.5A Glass Passivated Single-Phase Bridge Rectifiers-50-1000V

### Features

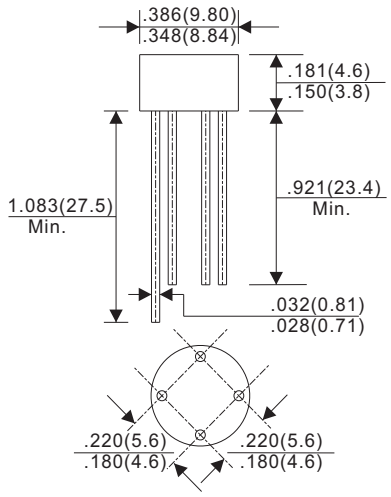
- Surge overload rating 40 amperes peak
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique results in expensive product
- Lead-free parts for green partner, meet RoHS requirements
- Suffix "-H" indicates Halogen-free parts, ex. RB151G-H

### Mechanical data

- Case: Potted plastic round body RB-15
- Epoxy: UL94-V0 rated flame retardant
- Terminals: Solderable per MIL-STD-750 Method 2026
- Polarity: As marked
- Mounting Position: Any

### Package outline

Round Bridge (RB-15)




Dimensions in inches and (millimeters)

### Maximum ratings and Electrical characteristics (AT $T_A$=25°C unless otherwise noted)

| PARAMETER | CONDITIONS | Symbol | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|
| Forward rectified current | See Fig.1 | $I_O$ | | | 1.5 | A |
| Forward surge current | 8.3ms single half sine-wave (JEDEC methode) | $I_{FSM}$ | | | 40 | A |
| Reverse current | $V_R$ = $V_{RRM}$ $T_J$ = 25°C | $I_R$ | | | 10.0 | uA |
| | $V_R$ = $V_{RRM}$ $T_J$ = 100°C | | | | 1000 | |
| $I^2t$ Rating for fusing | t < 8.3 ms | $I^2t$ | | | 6.64 | $A^2s$ |
| Storage temperature | | $T_{STG}$ | -65 | | +175 | °C |

| SYMBOLS | $V_{RRM}$ *1 (V) | $V_{RMS}$ *2 (V) | $V_R$ *3 (V) | $V_F$ *4 (V) | Operating temperature $T_J$, (°C) |
|---|---|---|---|---|---|
| RB151G | 50 | 35 | 50 | 1.10 | -55 to +150 |
| RB152G | 100 | 70 | 100 | | |
| RB153G | 200 | 140 | 200 | | |
| RB154G | 400 | 280 | 400 | | |
| RB155G | 600 | 420 | 600 | | |
| RB156G | 800 | 560 | 800 | | |
| RB157G | 1000 | 700 | 1000 | | |

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage per element @$I_F$=1.5A

# Rating and characteristic curves (RB151G THRU RB157G)

Fig.1 - Forward Current Derating Curve

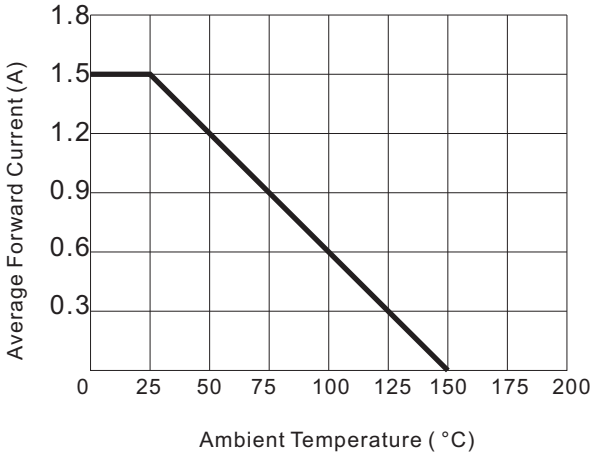



Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

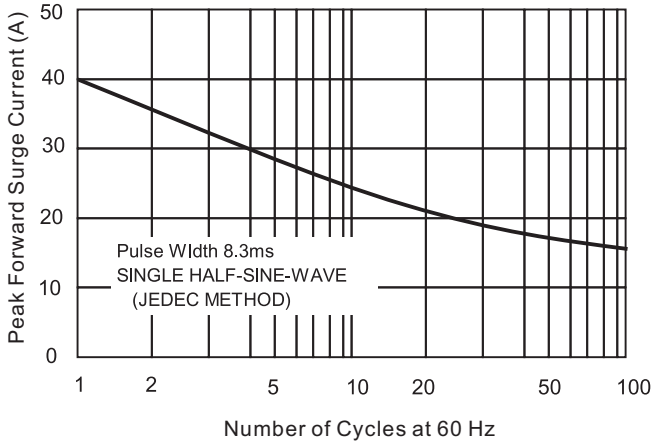



Fig. 3 - Typical Instantaneour Forward Characteristics (Per Leg)

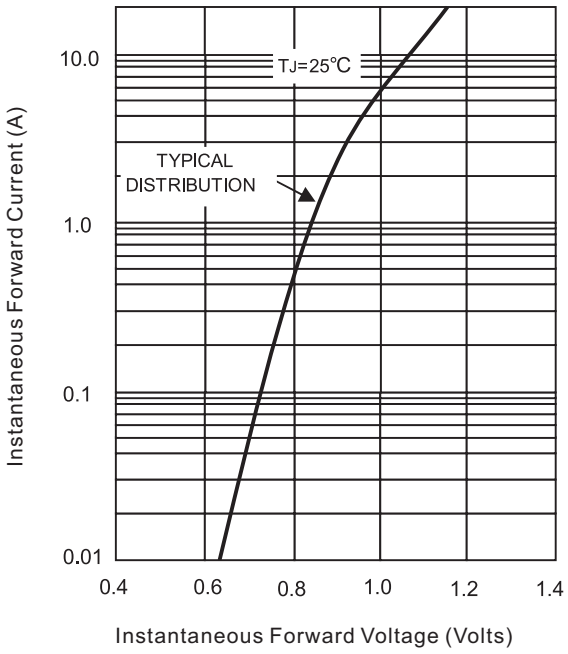
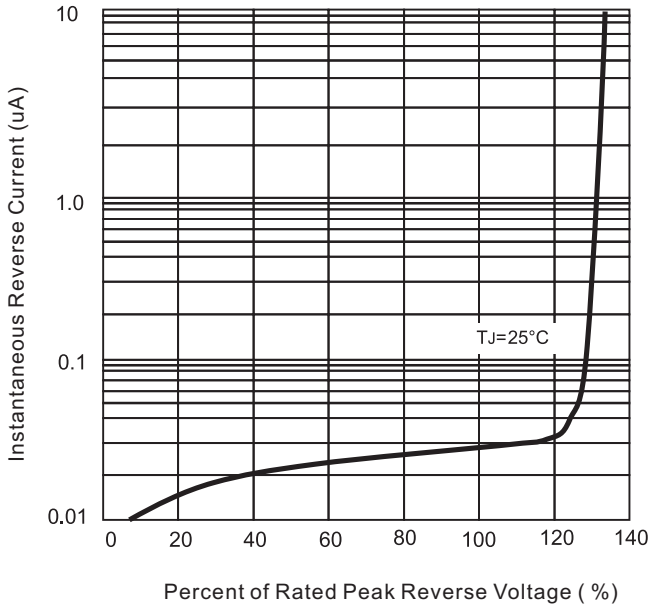



Fig. 4 - Typical Reverse Characteristics (Per Leg)



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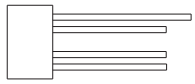
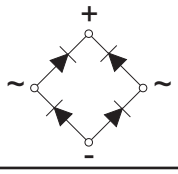
## Pinning information

| Simplified outline | Symbol |
|---|---|
|  |  |

## Marking

| Type number | Marking code |
|---|---|
| RB151G | RB151G |
| RB152G | RB152G |
| RB153G | RB153G |
| RB154G | RB154G |
| RB155G | RB155G |
| RB156G | RB156G |
| RB157G | RB157G |

## Bulk packing

| PACKAGE | BOX (pcs) | INNER BOX (m/m) | CARTON SIZE (m/m) | CARTON (pcs) | APPROX. GROSS WEIGHT (kg) |
|---|---|---|---|---|---|
| RB-15 | 1,000 | 230*230*49 | 490*240*310 | 10,000 | 13.0 |

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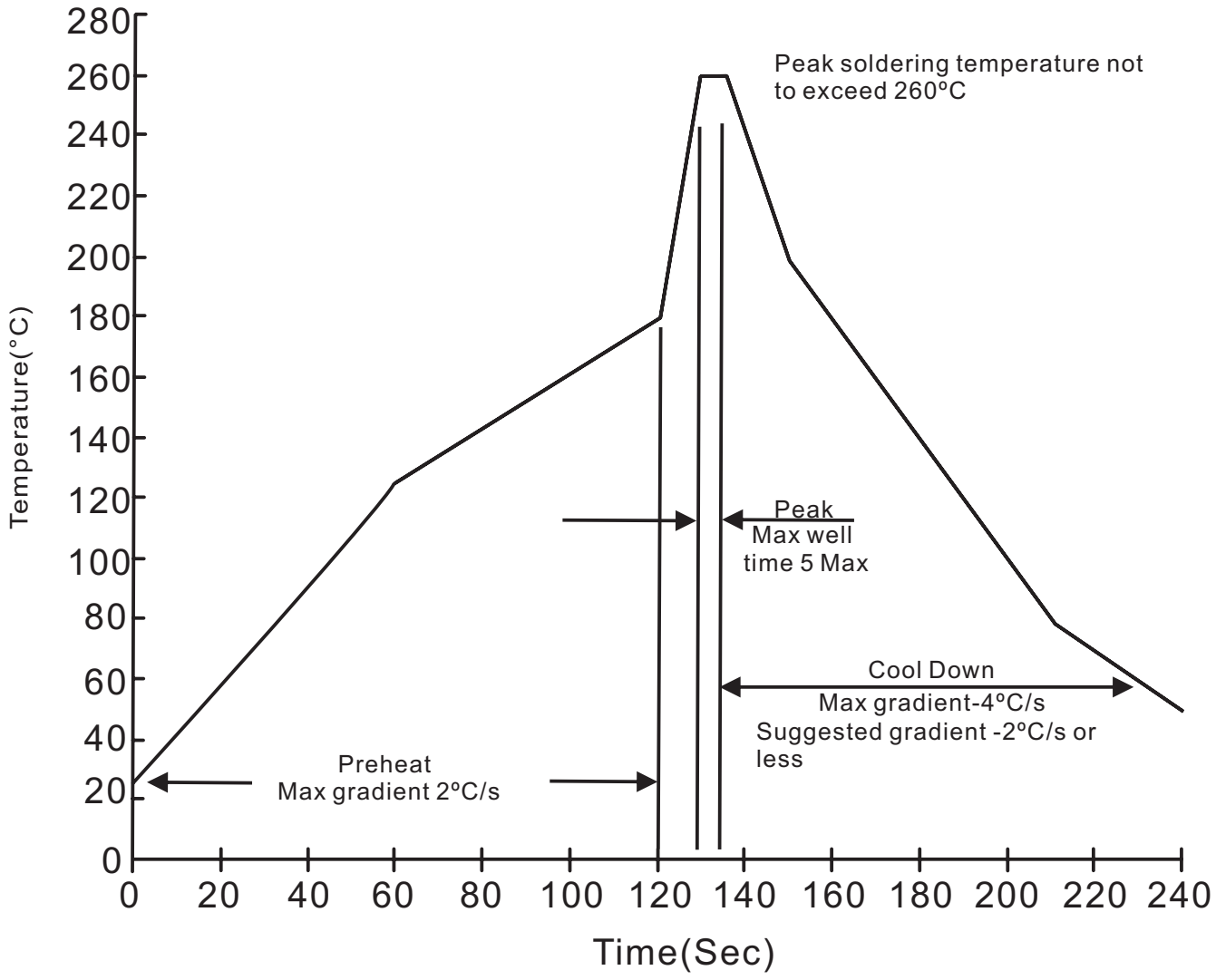
**Suggested thermal profiles for soldering processes**

1.Lead free temperature profile wave-soldering



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## High reliability test capabilities

| Item Test | Conditions | Reference |
|---|---|---|
| 1. Solder Resistance | at 260±5°C for 10±2sec.<br>immerse body into solder 1/16"±1/32" | MIL-STD-750D<br>METHOD-2031 |
| 2. Solderability | at 245±5°C for 5 sec. | MIL-STD-202F<br>METHOD-208 |
| 3. High Temperature Reverse Bias | $V_R$=80% rate at $T_J$=150°C for 168 hrs. | MIL-STD-750D<br>METHOD-1038 |
| 4. Forward Operation Life | Rated average rectifier current at $T_A$=25°C for 500hrs. | MIL-STD-750D<br>METHOD-1027 |
| 5. Intermittent Operation Life | $T_A$ = 25°C, $I_F$ = $I_O$<br>On state: power on for 5 min.<br>off state: power off for 5 min.<br>on and off for 500 cycles. | MIL-STD-750D<br>METHOD-1036 |
| 6. Pressure Cooker | 15$P_{SIG}$ at $T_A$=121°C for 4 hrs. | JESD22-A102 |
| 7. Temperature Cycling | -55°C to +125°C dwelled for 30 min.<br>and transferred for 5min. total 10 cycles. | MIL-STD-750D<br>METHOD-1051 |
| 8. Forward Surge | 8.3ms single half sine-wave , one surge. | MIL-STD-750D<br>METHOD-4066-2 |
| 9. Humidity | at $T_A$=85°C, RH=85% for 1000hrs. | MIL-STD-750D<br>METHOD-1021 |
| 10. High Temperature Storage Life | at 175°C for 1000 hrs. | MIL-STD-750D<br>METHOD-1031 |