PANJIT SEMI CONDUCTOR

# R1S~R10S

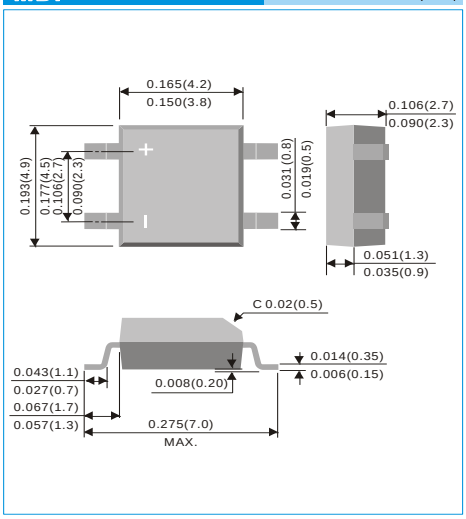
## MINI SURFACE MOUNT GLASS PASSIVATED SINGLE-PHASE FAST RECOVERY BRIDGE RECTIFIER

**VOLTAGE** 100 to 1000Volt **CURRENT** 0.5 Ampere

### FEATURES

- Plastic material used carries Underwriters Laboratory recognition 94V-O
- Low leakage
- Surge overload rating--30 amperes peak
- Ideal for printed circuit board
- Exceeds environmental standards of MIL-S-19500
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

**MDI** Unit : inch(mm)




### MECHANICAL DATA

- Case: Reliable low cost construction utilizing molded plastic technique results in inexpensive product
- Terminals: Lead solderable per MIL-STD-750, Method 2026
- Polarity: Polarity symbols molded or marking on body
- Weight: 0.0044 ounce, 0.1268 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, Resistive or inductive load.
For capacitive load, derate current by 20%

| PARAMETER | SYMBOL | R1S | R2S | R4S | R6S | R8S | R10S | UNITS |
|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Bridge Input Voltage | $V_{RMS}$ | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Current $T_A$=40°C<br>$T_A$=25°C (Note 3) | $I_{F(AV)}$ | 0.5<br>0.8* | | | | | | A |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$ | 30 | | | | | | A |
| $I^2t$ Rating for fusing ( t<8.35ms) | $I^2t$ | 3.735 | | | | | | $A^2t$ |
| Maximum Forward Voltage Drop per Bridge Element at 0.5A | $V_F$ | 1.15 | | | | | | V |
| Maximum DC Reverse Current $T_J$=25 °C<br>at Rated DC Blocking Voltage $T_J$=125 °C | $I_R$ | 5.0<br>500 | | | | | | μA |
| Typical Junction capacitance (Note 1) | $C_J$ | 25 | | | | | | pF |
| Maximum Recovery Time (Note 4) | $t_{rr}$ | 150 | | | 250 | 500 | | ns |
| Typical thermal resistance per leg ((Note 2) | $R_{\theta JA}$<br>$R_{\theta JL}$ | 85<br>20 | | | | | | °C / W |
| Operating Junction and Storage Temperature Range | $T_J$, $T_{STG}$ | -55 to + 150 | | | | | | °C |

NOTES:
1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
2. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.5 X 0.5"(13 X 13mm) copper pads
3. *R-load on alumina subtrate
4. Reverse Recovery Test Conditions : $I_F$=0.5A,$I_R$=1A,Irr=0.25A

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## RATING AND CHARACTERISTIC CURVES

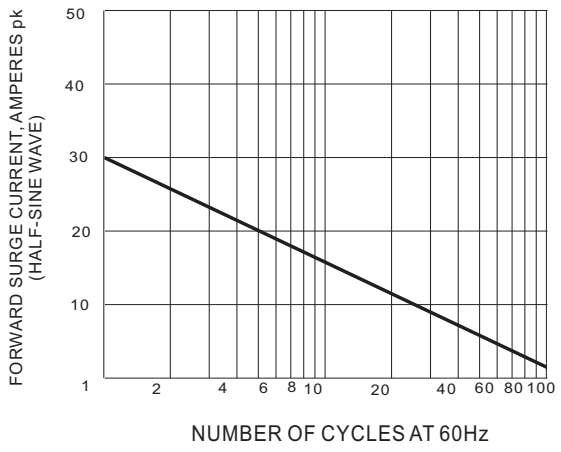


Fig.1 MAXIMUM NON-REPETITIVE SURGE CURRENT

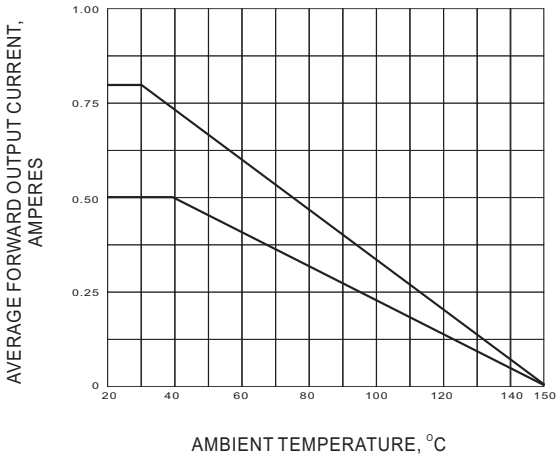


Fig.2 DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

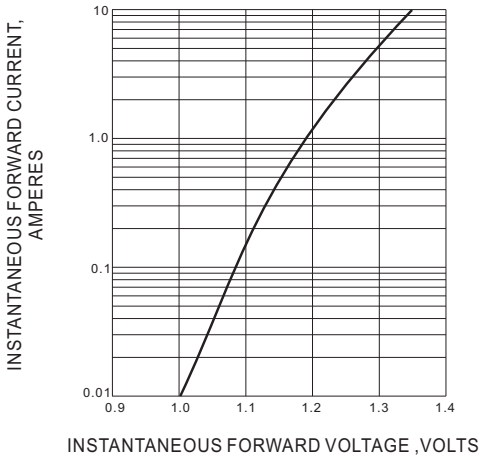


Fig.3 TYPICAL FORWARD CHARACTERISTICS

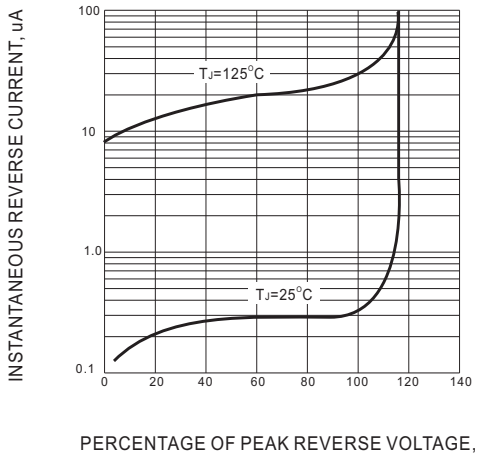


Fig.4 TYPICAL REVERSE CHARACTERISTICS

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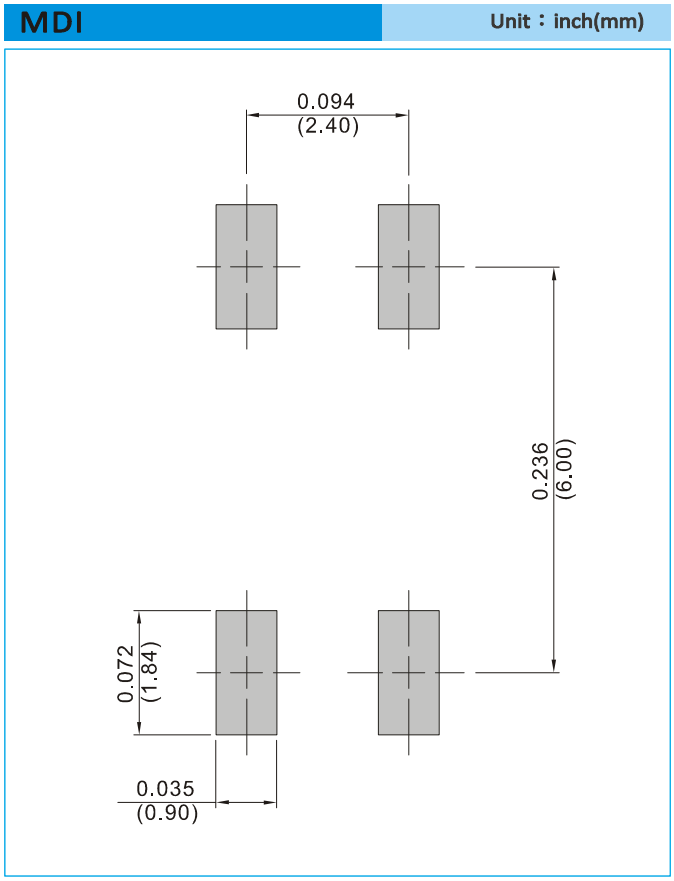
## MOUNTING PAD LAYOUT




## ORDER INFORMATION

- Packing information

  T/R - 3K per 13" plastic Reel

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## Part No_packing code_Version

R1S_R2_00001

**For example :**

**RB500V-40_R2_00001**


| Packing Code XX | | | | Version Code XXXXX | | |
|---|---|---|---|---|---|---|
| Packing type | 1st Code | Packing size code | 2nd Code | HF or RoHS | 1st Code | 2nd~5th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |

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