

**THREE PHASE FULL WAVE BRIDGE RECTIFIER ASSEMBLY**

**DESCRIPTION: 1200 V, 45 A, 850 nsec THREE PHASE BRIDGE RECTIFIER ASSEMBLY**

**MAX. RATINGS / ELECTRICAL CHARACTERISTICS** All ratings are at  $T_A = 25^\circ\text{C}$  unless otherwise specified.

| RATING   | CONDITIONS   | MIN               | TYP               | MAX                          | UNIT                 |
|--|--|-------------------|-------------------|------------------------------|----------------------|
| Non-Repetitive Peak Inverse Voltage (PIV)  | $T_J = -55^\circ\text{C}$  | 1100              | -                 | -                            | Vdc                  |
| Repetitive Peak Inverse Voltage (PIV)  | $T_J = 25^\circ\text{C}$   | 1200              | -                 | -                            | Vdc                  |
| Average DC Output Current ( $T_C = \text{Case Temp}$ ) ( $I_o$ )                   | $T_C = 55^\circ\text{C}$<br>$T_C = 100^\circ\text{C}$<br>$T_C = 125^\circ\text{C}$   | -                 | -                 | 45<br>28<br>16               | A                    |
| Average DC Output Current ( $T_A = \text{Ambient Temp}$ ) (no heat sink) ( $I_o$ ) | $T_A = 25^\circ\text{C}$<br>$T_A = 55^\circ\text{C}$<br>$T_A = 100^\circ\text{C}$  | -                 | -                 | 8.0<br>5.0<br>2.5            | A                    |
| Peak Single Cycle Surge Current ( $I_{FSM}$ )                                      | $t = 1.25\text{ms}$ single square wave<br>$T_C = 25^\circ\text{C}$<br>$T_C = 150^\circ\text{C}$<br>$t = 8.3\text{ms}$ 60Hz single pulse sine wave<br>$T_C = 25^\circ\text{C}$<br>$T_C = 150^\circ\text{C}$ | 400               | 700<br>570<br>325 |                              | A                    |
| Energy Rating $I^2t$   | $T = 1.25\text{ms}$ single square wave<br>$T_C = 25^\circ\text{C}$<br>$T_C = 150^\circ\text{C}$  |                   | 612<br>405        |                              | $\text{A}^2\text{s}$ |
| Junction temperature<br>Case temperature<br>Material temperature                   | $T_J$<br>$T_{OP}$<br>$T_{STG}$   | -55<br>-55<br>-55 |                   | +175<br>+150<br>+150         | $^\circ\text{C}$     |
| Maximum Forward Voltage ( $V_F$ ) (300 $\mu\text{s}$ pulse, duty cycle < 2%)       | $T_C = 25^\circ\text{C}$ , $I_F = 9\text{A}$<br>$T_C = 25^\circ\text{C}$ , $I_F = 45\text{A}$<br>$T_C = 125^\circ\text{C}$ , $I_F = 9\text{A}$<br>$T_C = 125^\circ\text{C}$ , $I_F = 45\text{A}$           | -                 | -                 | 1.15<br>1.65<br>1.00<br>1.55 | V                    |
| Maximum Instantaneous Reverse Current at Rated PIV                                 | $T_A = 25^\circ\text{C}$<br>$T_A = 100^\circ\text{C}$  | -                 | -                 | 10<br>100                    | $\mu\text{A}$        |
| Reverse Recovery Time ( $t_{RR}$ )   | $I_F = 0.5\text{A}$ , $I_R = 1.0\text{A}$ ,<br>$I_{RR} = 0.25\text{A}$ , $T_C = 25^\circ\text{C}$  | -                 | -                 | 850                          | nsec                 |
| Junction Capacitance ( $C_J$ )   | $V_R = 100\text{V}$ , $f = 1\text{MHz}$  | -                 | 100               | -                            | pF                   |
| Thermal Resistance ( $\theta_{JL}$ )   | Per Leg  | -                 | -                 | 4.0                          | $^\circ\text{C/W}$   |

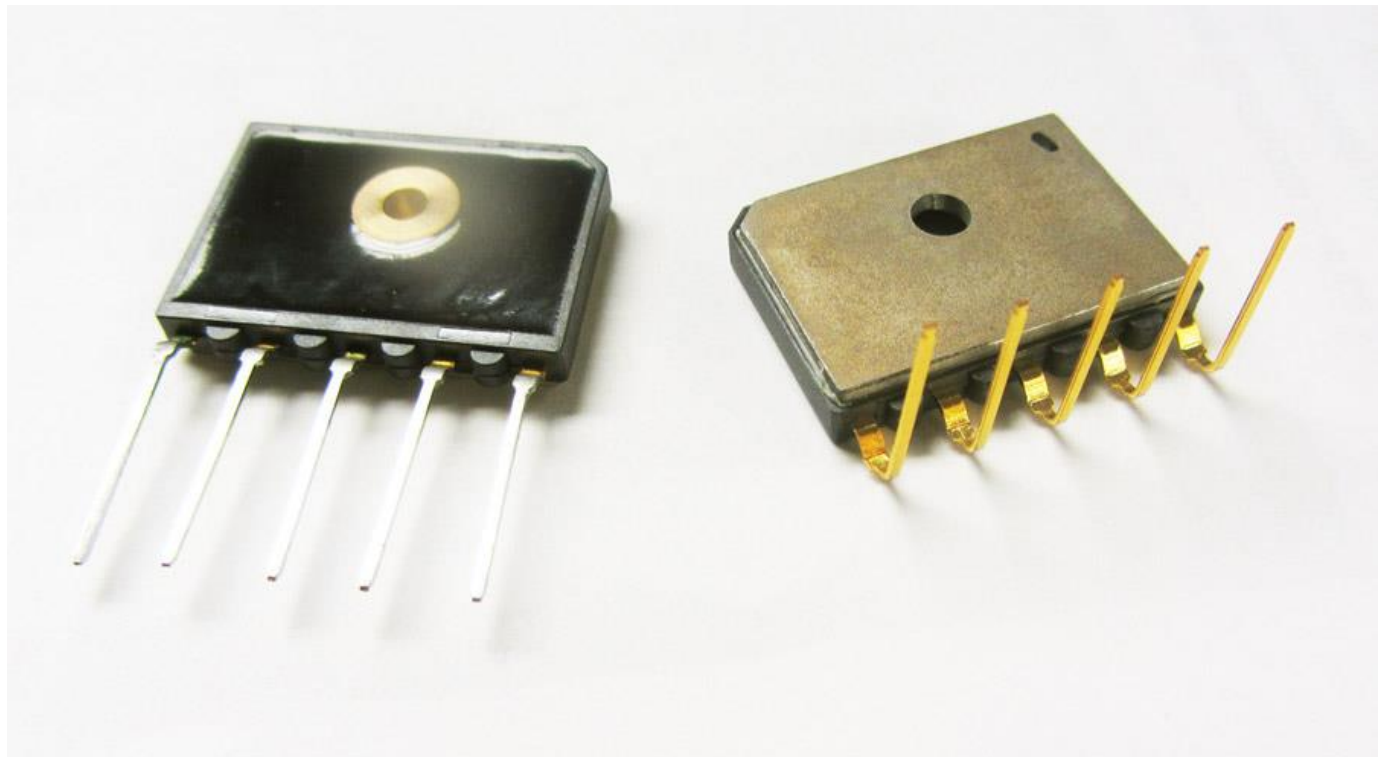
**SENSITRON****TECHNICAL DATA  
DATASHEET 5378, REV. D****Mechanical Characteristics:**

| RATING  | CONDITIONS                          | MIN | TYP  | MAX | UNIT             |
|---|-------------------------------------|-----|------|-----|------------------|
| Isolation Voltage                                 | All Leads - Base Plate<br>60Hz, 60S | -   | 2000 | -   | V                |
| Mounting Torque                                   | 20°C                                | -   | 10   | -   | In-lb.           |
| Max Acceleration                                  | -                                   | -   | -    | 50  | m/s <sup>2</sup> |
| Weight  | -                                   | -   | 16   | -   | gms              |
| Life thermal Cycling<br>(Qualification test only) | -40°C to 125°C                      | -   | 750  | -   | Cycles           |

Note: Add a suffix S to the part number for S-100 Screening.

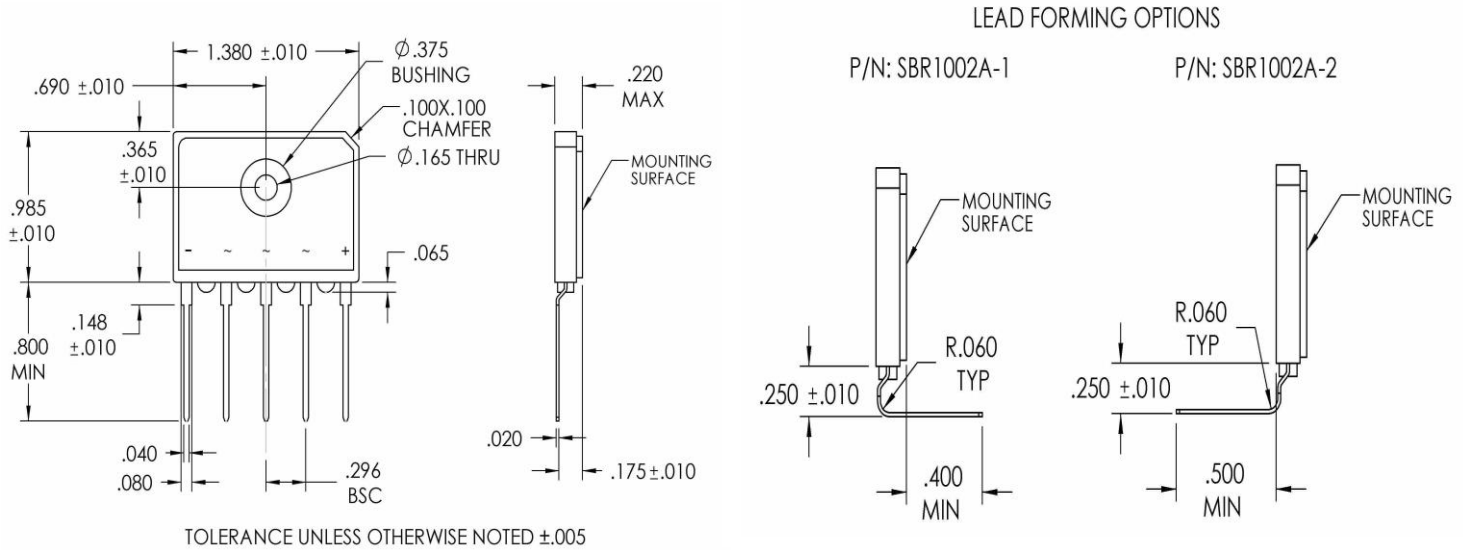
**Lead Bend Options:**

SBR1002A    Straight Leads  
 SBR1002A-1    Leads Bent Down  
 SBR1002A-2    Leads Bent Up



**SENSITRON**  
**TECHNICAL DATA**  
**DATASHEET 5378, REV. D**

**MECHANICAL DIMENSIONS: In Inches**



**PKG: SIP2-5L-CML**

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