

**THREE PHASE FULL WAVE BRIDGE RECTIFIER ASSEMBLY WITH  
AISiC TECHNOLOGY**

DESCRIPTION: 1400 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)	$T_J = -55^\circ\text{C}$	1400	-	-	Vdc
Repetitive Peak Inverse Voltage (PIV)	$T_J = -40^\circ\text{C}$	1400	-	-	Vdc
Average DC Output Current ( $T_C = \text{Case Temp}$ ) ( $I_o$ )	$T_C = 55^\circ\text{C}$ $T_C = 100^\circ\text{C}$ $T_C = 125^\circ\text{C}$	-	-	45 28 16	A
Average DC Output Current ( $T_A = \text{Ambient Temp}$ ) (no heat sink) ( $I_o$ )	$T_A = 25^\circ\text{C}$ $T_A = 55^\circ\text{C}$ $T_A = 100^\circ\text{C}$	-	-	8.0 5.0 2.5	A
Peak Single Cycle Surge Current ( $I_{FSM}$ )	$t = 1.25\text{ms}$ single square wave $T_C = 25^\circ\text{C}$ $T_C = 150^\circ\text{C}$ $t = 8.3\text{ms}$ 60Hz single pulse sine wave $T_C = 25^\circ\text{C}$ $T_C = 150^\circ\text{C}$	400	700 570 325		A
Energy Rating $I^2t$	$T = 1.25\text{ms}$ single square wave $T_C = 25^\circ\text{C}$ $T_C = 150^\circ\text{C}$		612 405		$\text{A}^2\text{s}$
Junction temperature Case temperature Material temperature	$T_J$ $T_{OP}$ $T_{STG}$	-55 -55 -55		+175 +150 +150	$^\circ\text{C}$
Maximum Forward Voltage ( $V_F$ ) (300 $\mu\text{s}$ pulse, duty cycle < 2%)	$T_C = 25^\circ\text{C}$ , $I_F = 9\text{A}$ $T_C = 25^\circ\text{C}$ , $I_F = 45\text{A}$ $T_C = 125^\circ\text{C}$ , $I_F = 9\text{A}$ $T_C = 125^\circ\text{C}$ , $I_F = 45\text{A}$	-	-	1.30 1.90 1.15 1.85	V
Maximum Instantaneous Reverse Current at Rated PIV	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	-	-	10 100	$\mu\text{A}$
Reverse Recovery Time ( $t_{RR}$ )	$I_F = 0.5\text{A}$ , $I_R = 1.0\text{A}$ , $I_{RR} = 0.25\text{A}$ , $T_C = 25^\circ\text{C}$	-	-	850	nsec
Junction Capacitance ( $C_J$ )	$V_R = 100\text{V}$ , $f = 1\text{MHz}$	-	40	-	pF
Thermal Resistance ( $\theta_{JL}$ )	Per Leg	-	-	4.0	$^\circ\text{C/W}$

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

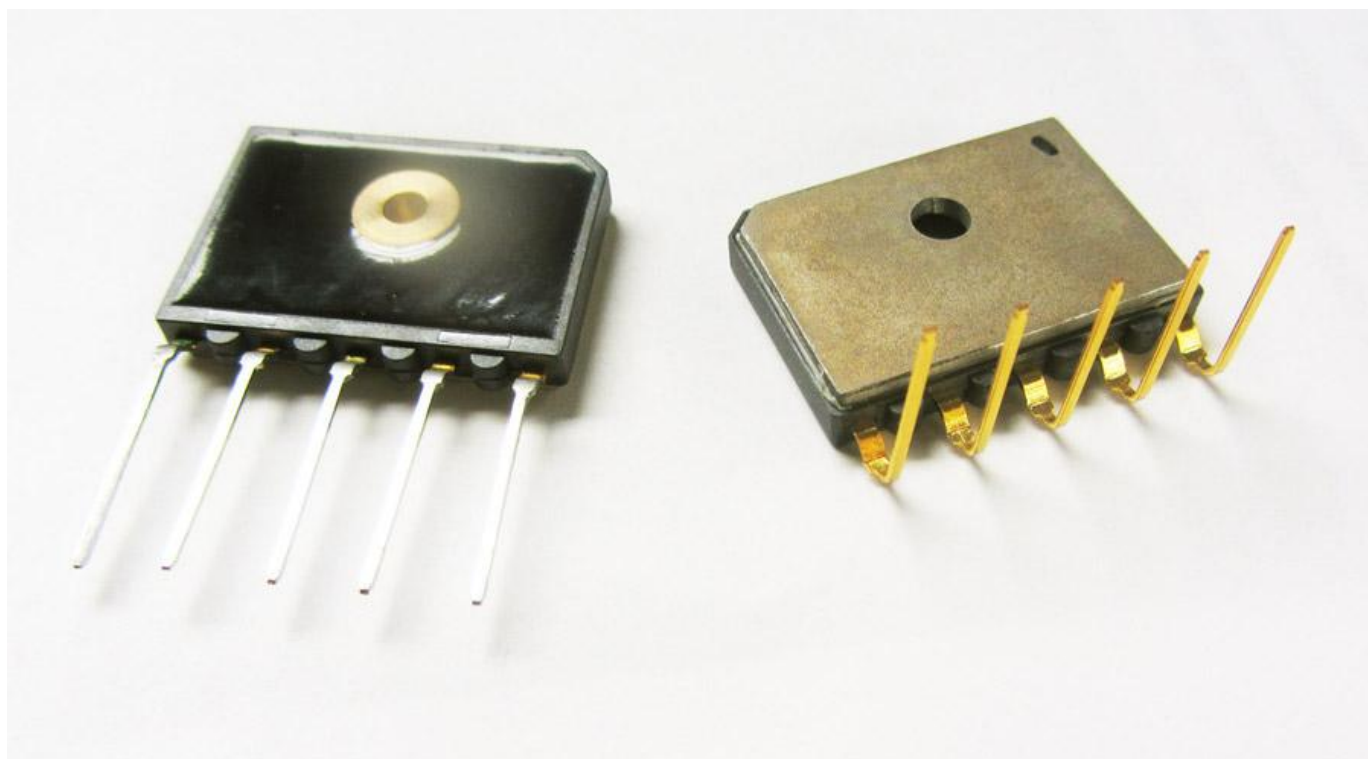
**Mechanical Characteristics:**

RATING	CONDITIONS	MIN	TYP	MAX	UNIT
Isolation Voltage	All Leads - Base Plate 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 (Qualification test only)	-40°C to 125°C	-	750	-	Cycles

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

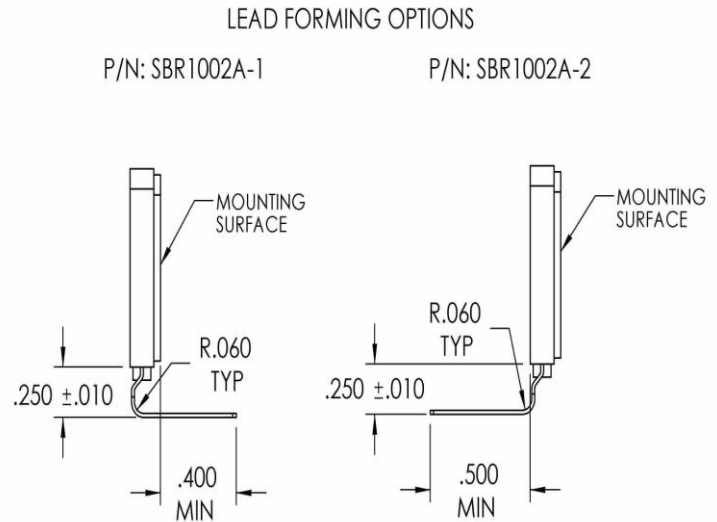
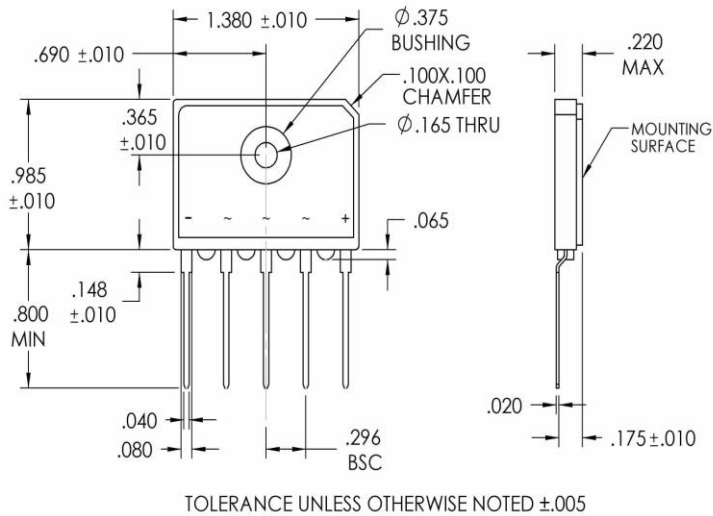
**Lead Bend Options:**

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



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**MECHANICAL DIMENSIONS: In Inches**



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