

THREE PHASE FULL WAVE BRIDGE RECTIFIER ASSEMBLY

DESCRIPTION: 1200 V, 55 A, 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)	$T_J = 25^\circ\text{C}, T_J = 125^\circ\text{C}$ $T_J = -55^\circ\text{C}$	1300 1200	-	-	Vdc
Repetitive Peak Inverse Voltage (PIV)	$T_J = 25^\circ\text{C}, T_J = 125^\circ\text{C}$ $T_J = -55^\circ\text{C}$	1300 1200	-	-	Vdc
Average DC Output Current ($T_C = \text{Case Temp}$) (I_o)	$T_C = 55^\circ\text{C}^*$ $T_C = 100^\circ\text{C}$ $T_C = 125^\circ\text{C}$	-	-	55 45 30	A
Average DC Output Current ($T_A = \text{Ambient Temp}$) (no heat sink) (I_o)	$T_A = 25^\circ\text{C}$ $T_A = 55^\circ\text{C}$ $T_A = 100^\circ\text{C}$	-	-	12 9.6 6	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 $T_C = 25^\circ\text{C}$ $T_C = 150^\circ\text{C}$	1000	2000 1000 400		A
Energy Rating I^2t	$T = 1.25\text{ms}$ single square wave $T_C = 25^\circ\text{C}$ $T_C = 150^\circ\text{C}$		5000 1250		A^2s
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 μs pulse, duty cycle < 2%)	$T_C = 25^\circ\text{C}, I_F = 9\text{A}$ $T_C = 25^\circ\text{C}, I_F = 45\text{A}$ $T_C = 125^\circ\text{C}, I_F = 9\text{A}$ $T_C = 125^\circ\text{C}, I_F = 45\text{A}$	-	-	1.05 1.25 0.98 1.20	V
Maximum Instantaneous Reverse Current at Rated PIV	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	-	-	30 400	μA
Reverse Recovery Time (t_{RR})	$I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{RR} = 0.25\text{A}, T_C = 25^\circ\text{C}$	-	-	5000	nsec
Junction Capacitance (C_J)	$V_R = 100\text{V}, f = 1\text{MHz}$	-	200	-	pF
Thermal Resistance (θ_{JL})	Per Leg	-	-	1.0	$^\circ\text{C/W}$

SENSITRON**TECHNICAL DATA
DATASHEET 5446, REV. A****Mechanical Characteristics:**

RATING	CONDITIONS	MIN	TYP	MAX	UNIT
Isolation Voltage	All Leads - Base Plate 60Hz, 60S	-	2000	-	V
Weight	-	-	20	-	gms
Life thermal Cycling (Qualification test only)	-40°C to 125°C	-	750	-	Cycles

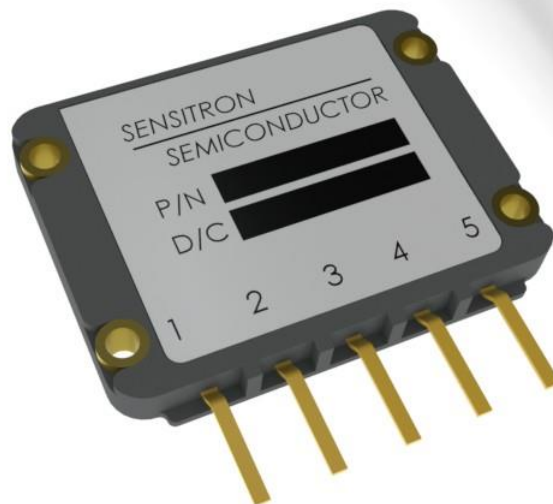
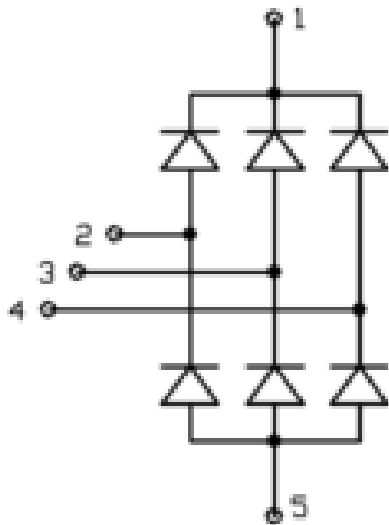
Note: * Die rating is 100A, limited by packaging.

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

Lead Bend Options: Consult Factory

PINOUT TABLE

PIN	Function
1	DC (+)
2	PHASE A
3	PHASE B
4	PHASE C
5	DC (-)

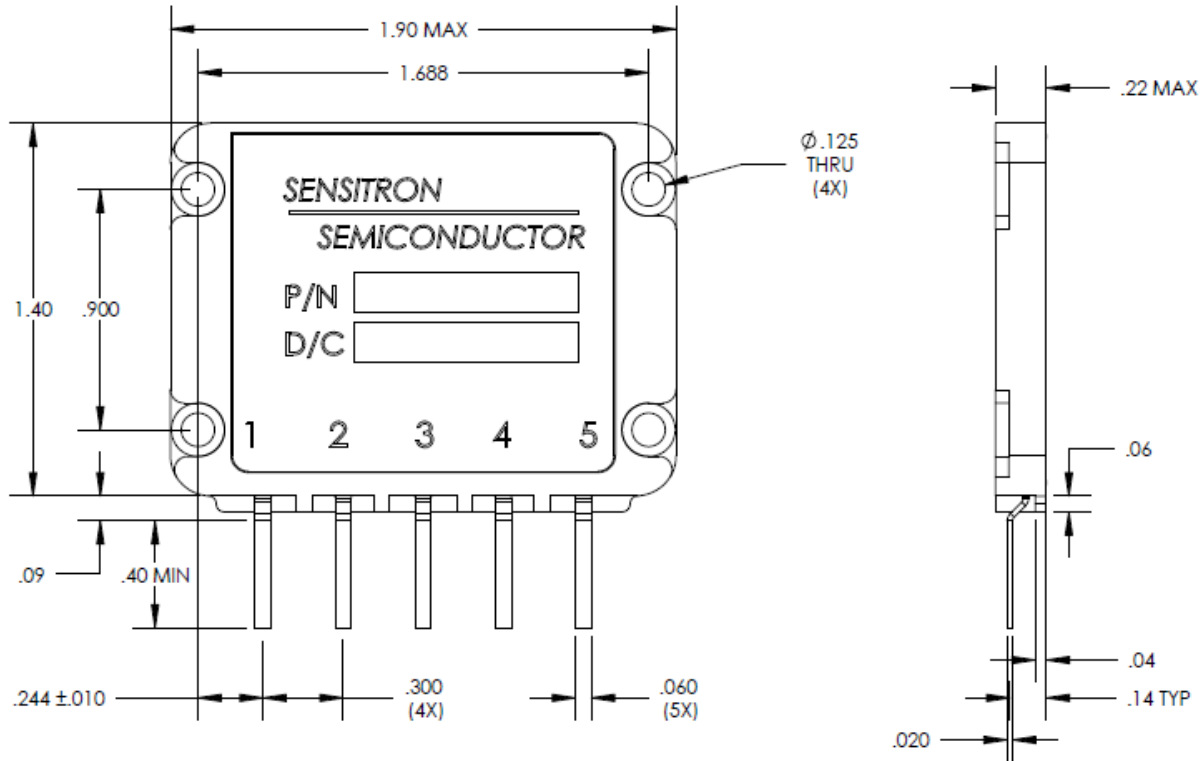
SCHEMATIC

SENSITRON **SEMICONDUCTOR**

SBR1005

TECHNICAL DATA
DATASHEET 5446, REV. A

MECHANICAL DIMENSIONS: In Inches



TOLERANCE .XX = ±.010, .XXX = ±.005

MAXIMUM MOUNTING TORQUE = 4 IN-LB

PKG: SIP3-5L

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