

TECHNICAL DATA

PART NUMBER: SCP-5988, Rev. A

THREE PHASE FULL WAVE BRIDGE RECTIFIER

DESCRIPTION: 1000 VOLT, 100 AMP THREE PHASE BRIDGE RECTIFIER ASSEMBLY.

Features:

- Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- Very High Surge Capacity
- Very suitable for medium frequency applications (upto 10 kHz)
- Soft Reverse Recovery at Low and High Temperature
- T_{rr} guaranteed lower than 2.5 μ sec

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

| RATING | CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|-----|------|-----------------|---------------|
| Peak Inverse Voltage (PIV) | - | - | - | 1100 | V |
| Average DC Output Current (I_o) | $T_C = 55^\circ\text{C}$ $T_C = 100^\circ\text{C}$ $T_C = 125^\circ\text{C}$ | - | - | 100 70 55 | A |
| Peak Single Cycle Surge Current (I_{FSM}) | $t_p = 8.3$ ms Single Half Cycle Sine Wave | - | - | 720 | A (pk) |
| Peak Recurring Surge Current (I_{FRM}) | $T_C = 25^\circ\text{C}$ | - | - | 300 | A |
| Max. Forward Voltage Drop V_{F1} | 80A, Pulse, $T_J = 25^\circ\text{C}$ | - | 1.25 | 1.4 | V |
| Max. Forward Voltage Drop V_{F2} | 80A, Pulse, $T_J = 125^\circ\text{C}$ | - | - | 1.25 | V |
| Max. Reverse Current I_{R1} | $V_R = 1000\text{V}$, Pulse, $T_J = 25^\circ\text{C}$ | - | 1.5 | 5.0 | μA |
| Max. Reverse Current I_{R2} | $V_R = 1000\text{V}$, Pulse, $T_J = 125^\circ\text{C}$ | - | - | 15 | mA |
| Reverse Recovery Time T_{RR} | $I_F = 40\text{A}$; $di/dt = 25\text{A} / \mu\text{s}$, $V_R = 100\text{V}$, $T_J = 25^\circ\text{C}$ | - | 1.6 | 2.1 | μs |
| Reverse Recovery Current I_{RM} | $I_F = 40\text{A}$; $di/dt = 25\text{A} / \mu\text{s}$, $V_R = 100\text{V}$, $T_J = 25^\circ\text{C}$ | - | 27 | 40 | A |
| Max. Junction Capacitance C_T | $V_R = 30\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$, $V_{SIG} = 100\text{mV}$ | - | 650 | 800 | pF |

Package Characteristics

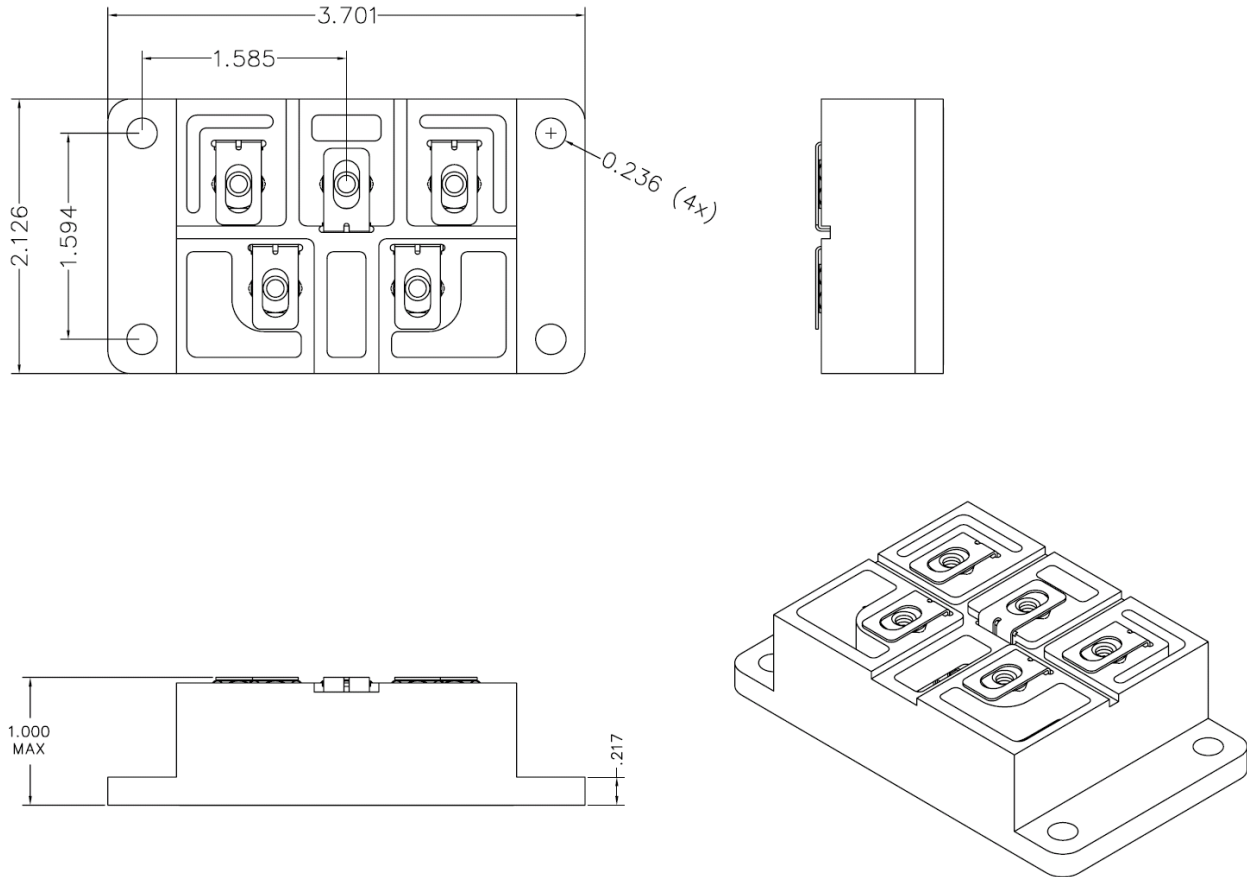
| | | | | | |
|--|----------------------|--------|--------|------------|--------------------|
| Max Module Power Loss at Rated Current $T_C = 55^\circ\text{C}$ $T_C = 100^\circ\text{C}$ | P_D | - - | - - | 350 185 | W |
| Thermal Resistance Junction to Case | $R_{\theta JC}$ | - | - | 0.35 | $^\circ\text{C/W}$ |
| Operating & Storage Temperature Range | T_{OP} & T_{STG} | - 55 | - | 150 | $^\circ\text{C}$ |
| Isolation – Pins to Base Plate | V_{iso} | - | - | 1500 | V |
| Module Weight | M | - | 165 | - | gms |

Note: Die Max Junction temperature is 190°C

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MECHANICAL OUTLINE (DIMENSIONS ARE IN INCHES)



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