

309CNQ135/309CNQ150 SCHOTTKY RECTIFIER

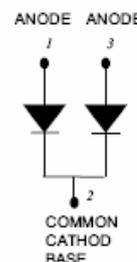
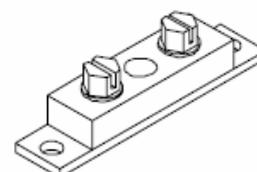
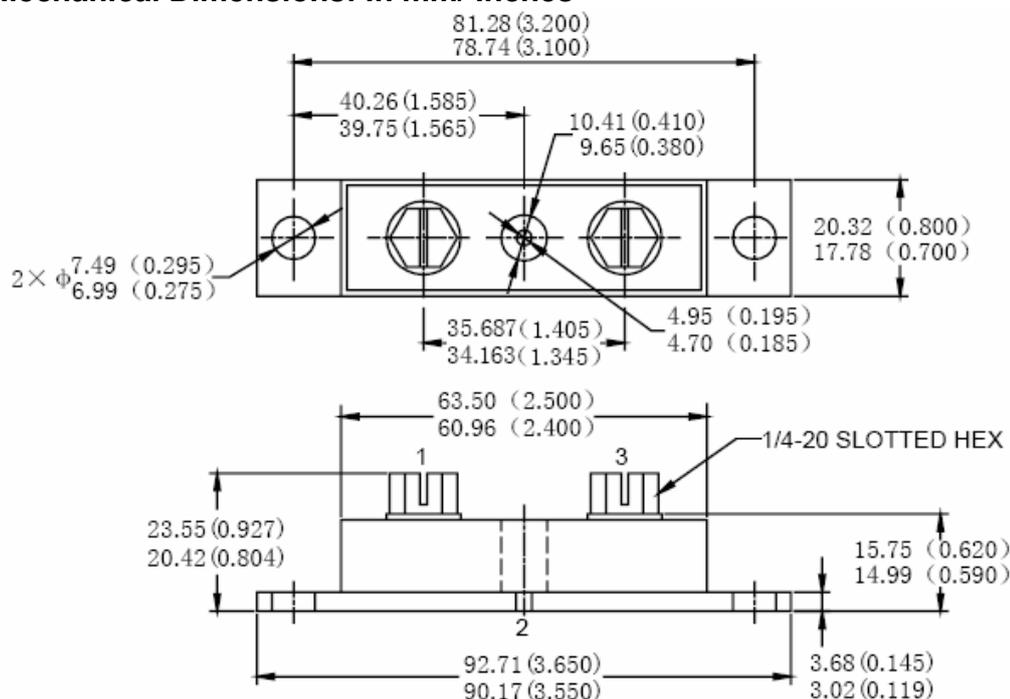
Applications:

- High current switching power supply
- Plating power supply
- Free-Wheeling diodes
- Reverse battery protection
- Converters
- UPS System
- Welding

Features:

- 175 °C T_J operation
- Center tap module
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Mechanical Dimensions: In mm/ Inches



PRM4 (Non-Isolated)

MARKING, MOLDING RESIN

Marking for 309CNQ135/150, 1st row SS YYWWL, 2nd row 309CNQ135/150

Where YY is the manufacture year

WW is the manufacture week code

L is the wafer's Lot Number

Molding resin

Epoxy resin UL:94V-0

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|-------------|---|------|------------|
| Peak Inverse Voltage | V_{RWM} | - | 135 | V |
| | | | 150 | |
| Max. Average Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_C=110^{\circ}C$, rectangular wave form | 150 | per leg |
| | | | 300 | per device |
| Max. Peak One Cycle Non-Repetitive Surge Current (per leg) | I_{FSM} | 8.3 ms, half Sine pulse | 1440 | A |

Electrical Characteristics:

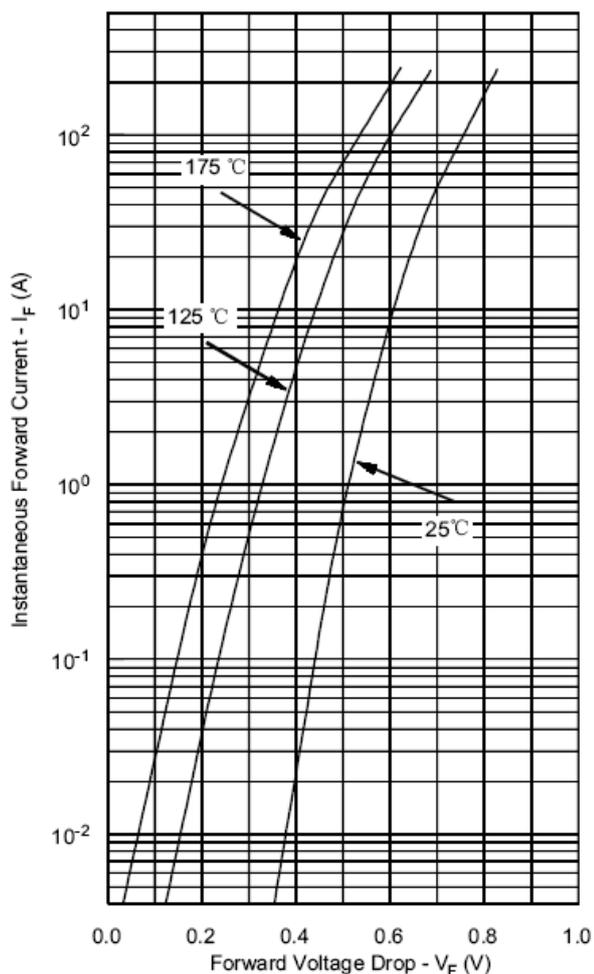
| Characteristics | Symbol | Condition | Max. | Units |
|---------------------------------------|----------|--|--------|------------|
| Max. Forward Voltage Drop (per leg) * | V_{F1} | @ 150A, Pulse, $T_J = 25^{\circ}C$ | 1.03 | V |
| | | @ 300A, Pulse, $T_J = 25^{\circ}C$ | 1.22 | |
| Max. Reverse Current (per leg) * | I_{R1} | @ $V_R = \text{rated } V_R$, $T_J = 25^{\circ}C$ | 3 | mA |
| | | @ $V_R = \text{rated } V_R$, $T_J = 125^{\circ}C$ | 45 | |
| Max. Junction Capacitance (per leg) | C_T | @ $V_R = 5V$, $T_C = 25^{\circ}C$ $f_{SIG} = 1MHz$ | 4000 | pF |
| Typical Series Inductance (per leg) | L_S | Measured lead to lead 5 mm from package body | 7.0 | nH |
| Max. Voltage Rate of Change | dv/dt | - | 10,000 | V/ μs |

* Pulse Width < 300 μs , Duty Cycle <2%

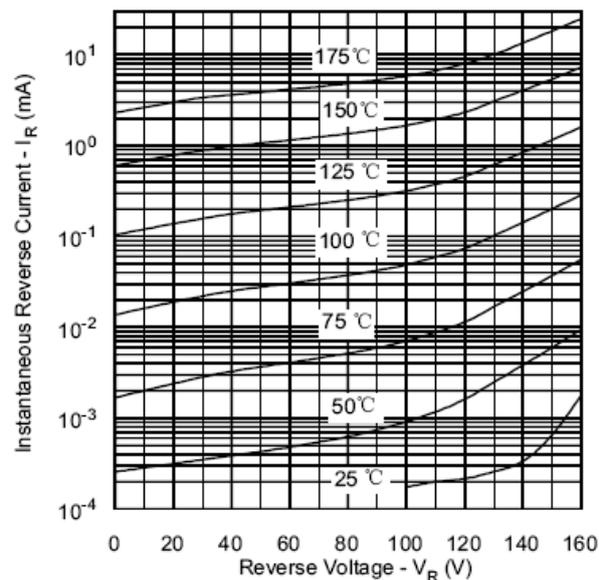
Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---|-------------------|--------------------------------------|-----------------|--------------------|
| Max. Junction Temperature | T_J | - | -55 to +175 | $^{\circ}C$ |
| Max. Storage Temperature | T_{stg} | - | -55 to +175 | $^{\circ}C$ |
| Maximum Thermal Resistance Junction to Case (per leg) | $R_{\theta JC}$ | DC operation | 0.50 | $^{\circ}C/W$ |
| Maximum Thermal Resistance Junction to Case (per package) | $R_{\theta JC}$ | DC operation | 0.25 | $^{\circ}C/W$ |
| Typical Thermal Resistance, case to Heat Sink | $R_{\theta cs}$ | Mounting surface, smooth and greased | 0.10 | $^{\circ}C/W$ |
| Mounting Torque | T_M | - | Mounting Torque | 24(min) 35(max) |
| | | | Terminal Torque | 35(min) 46(max) |
| Approximate Weight | wt | - | 79 | g |
| Case Style | PRM4 Non-Isolated | | | |

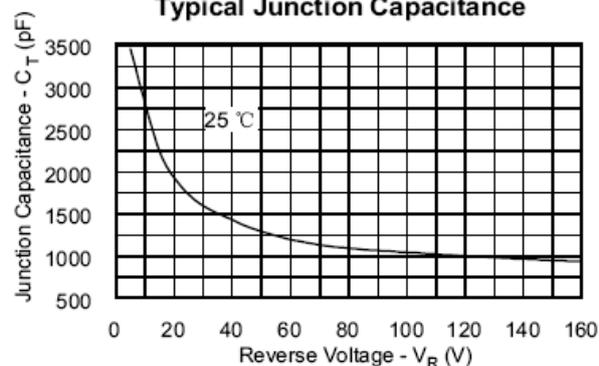
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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