

Technical Data
Data Sheet N1502, Rev. -

Green Products

409DMQ135/150 SCHOTTKY RECTIFIER

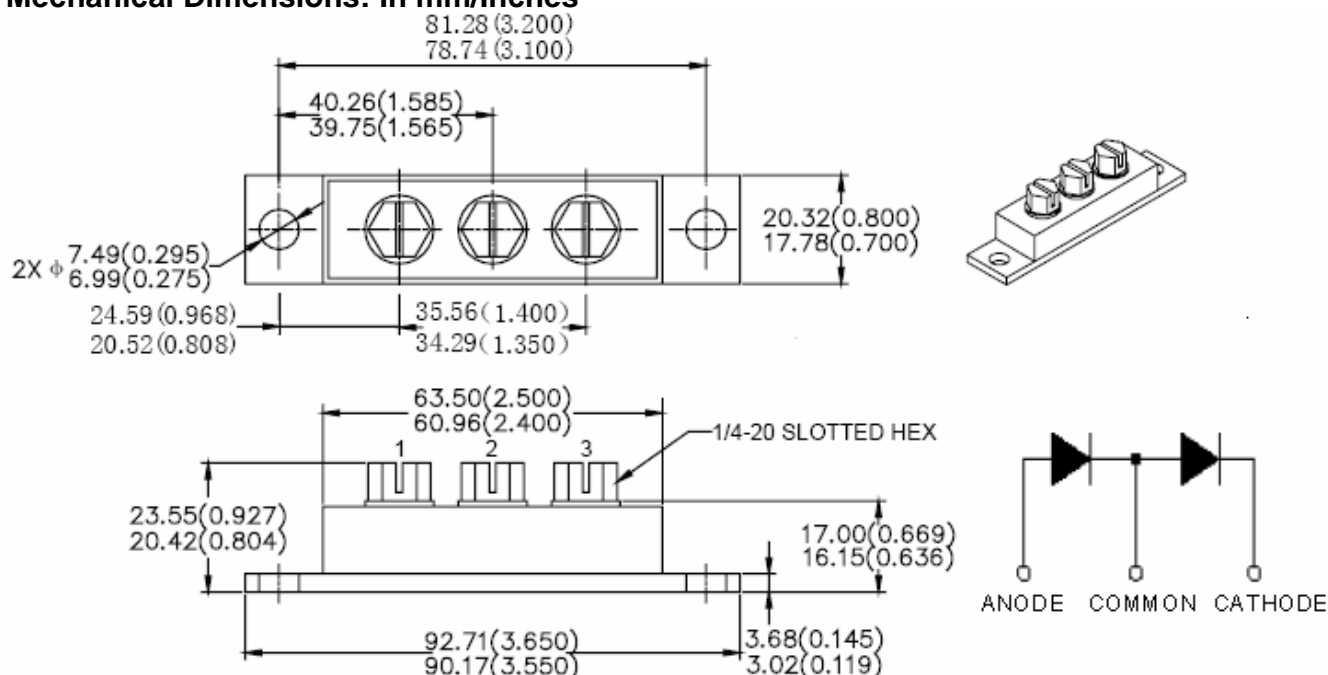
Applications:

- 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



Please Note: Anode 1 = Terminal 1; Anode 2 = Terminal 3; Common Cathode = Terminal 2
Suffix R Denotes for Reversed Polarity.

PRM4 (Isolated)

MARKING, MOLDING RESIN

Marking for 409CMQ135/150, 1st row SS YYWWL, 2nd row 409CMQ135/150

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

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Maximum Ratings:

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| Characteristics | Symbol | Condition | Max. | Units |
|--|-------------|---|-----------|-------|
| Peak Inverse Voltage | V_{RWM} | - | 135 | V |
| | | | 409CMQ135 | |
| Max. Average Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_C = 105^\circ\text{C}$, rectangular wave form | 200 | A |
| | | | 400 | |
| Max. Peak One Cycle Non-Repetitive Surge Current (per leg) | I_{FSM} | 8.3 ms, half Sine pulse | 2760 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|---------------------------------------|-----------|--|--------|------------------|
| Max. Forward Voltage Drop (per leg) * | V_{F1} | @ 200A, Pulse, $T_J = 25^\circ\text{C}$ | 1.03 | V |
| | | @ 400A, Pulse, $T_J = 25^\circ\text{C}$ | 1.21 | |
| Max. Reverse Current (per leg) * | I_{R1} | @ $V_R = \text{rated } V_R$, $T_J = 25^\circ\text{C}$ | 6 | mA |
| | | @ $V_R = \text{rated } V_R$, $T_J = 125^\circ\text{C}$ | 85 | |
| Max. Junction Capacitance (per leg) | C_T | @ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$ | 6000 | pF |
| Typical Series Inductance (per leg) | L_S | Measured lead to lead 5 mm from package body | 5.0 | nH |
| Isolation Voltage | V_{ISO} | Tracer to 1500V, measuring whether conducting base plate and the center column | 1500 | V |
| 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 +150 | $^\circ\text{C}$ |
| Max. Storage Temperature | T_{stg} | - | -55 to +150 | $^\circ\text{C}$ |
| Maximum Thermal Resistance Junction to Case (per leg) | $R_{\theta JC}$ | DC operation | 0.40 | $^\circ\text{C/W}$ |
| Maximum Thermal Resistance Junction to Case (per package) | $R_{\theta JC}$ | DC operation | 0.20 | $^\circ\text{C/W}$ |
| Typical Thermal Resistance, case to Heat Sink | $R_{\theta cs}$ | Mounting surface, smooth and greased | 0.10 | $^\circ\text{C/W}$ |
| Mounting Torque | T_M | - | Mounting Torque | Kg-cm |
| | | | Terminal Torque | |
| Approximate Weight | wt | - | 79 | g |
| Case Style | PRM4 Isolated | | | |

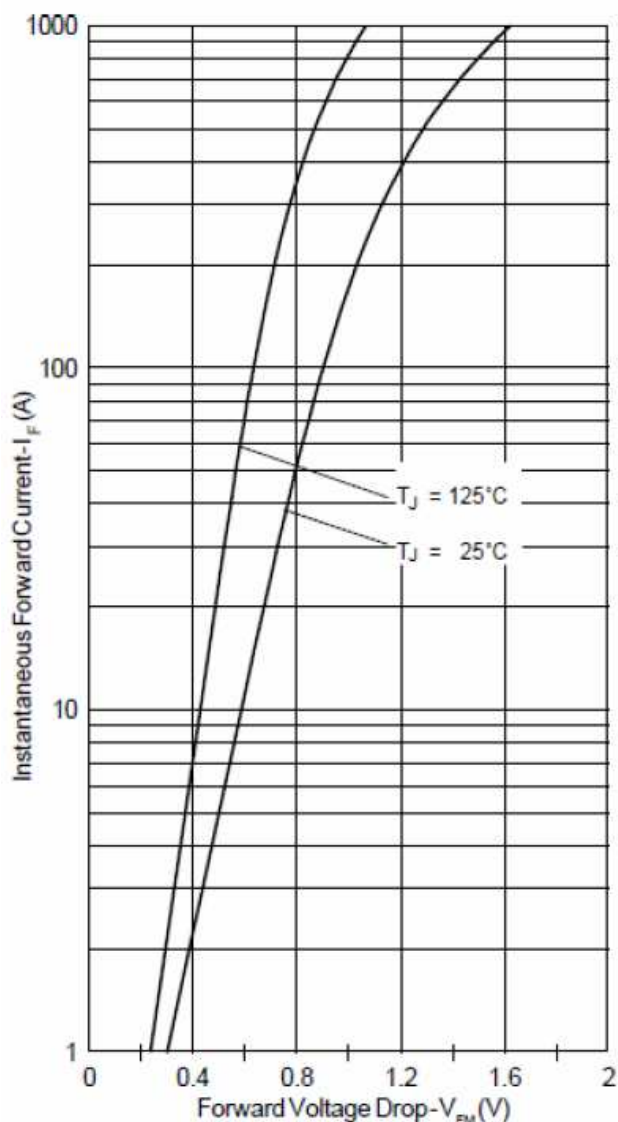


Fig.1 - Max. Forward Voltage Drop Characteristics

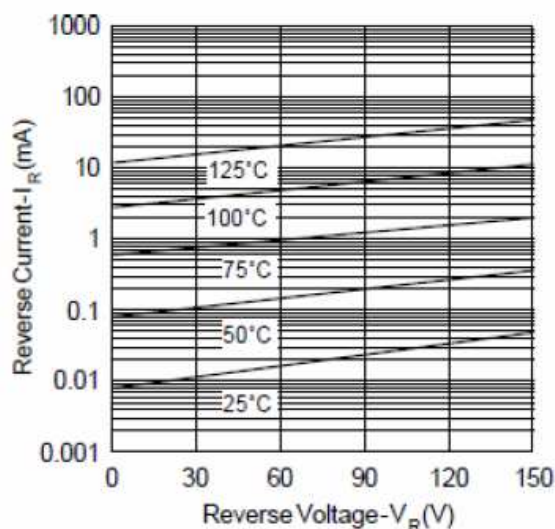


Fig.2-Typical Reverse Characteristics

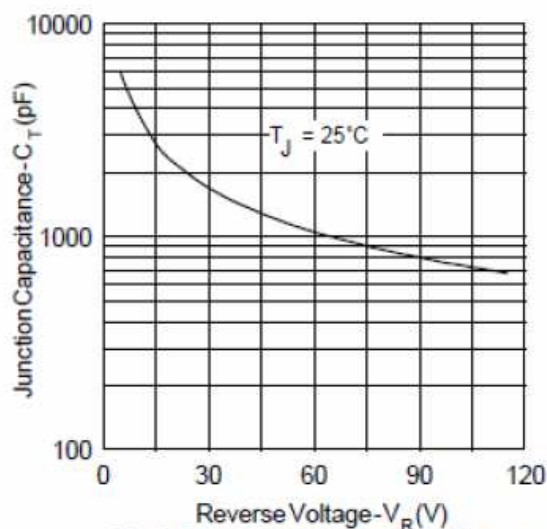


Fig.3 - Typical Junction Capacitance Vs. Reverse Voltage

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