

Technical Data  
 Data Sheet N1502, Rev. -

**Green Products**

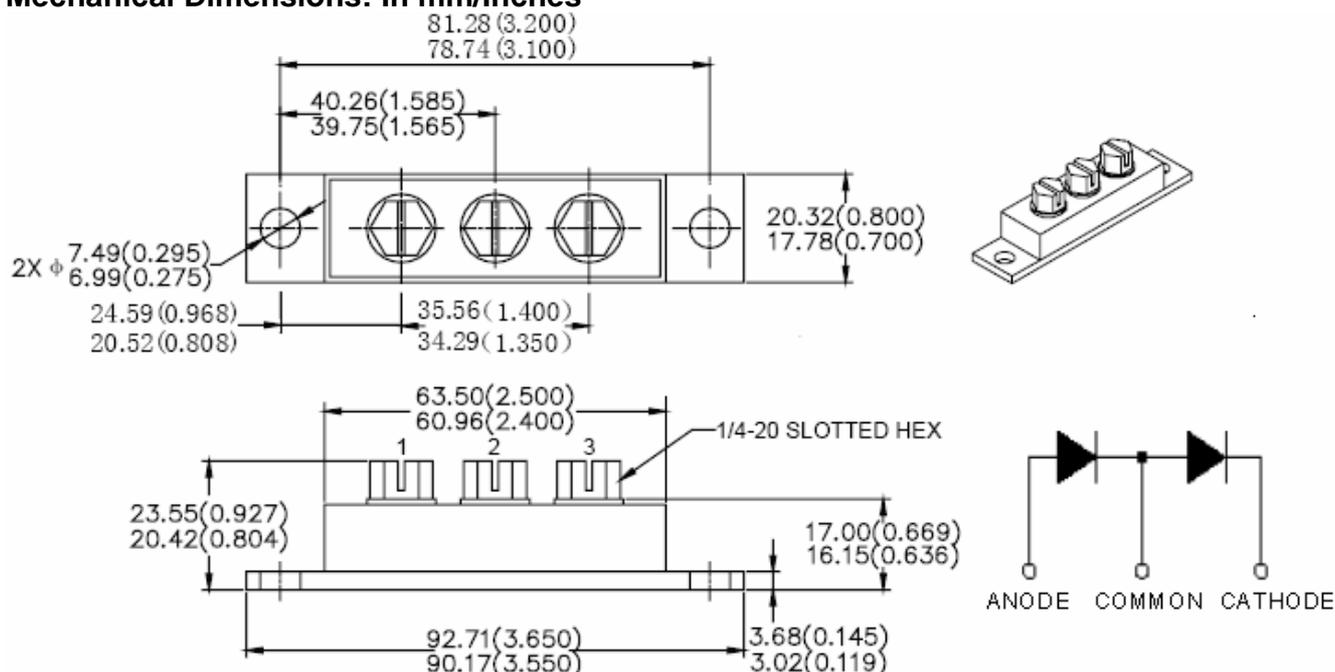
## 409DMQ135/150 SCHOTTKY RECTIFIER

**Applications:**

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

**Features:**

- 175 °C T<sub>J</sub> 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, 1<sup>st</sup> row SS YYWWL, 2<sup>nd</sup> 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/ $\mu\text{s}$

\* Pulse Width < 300 $\mu\text{s}$ , 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			

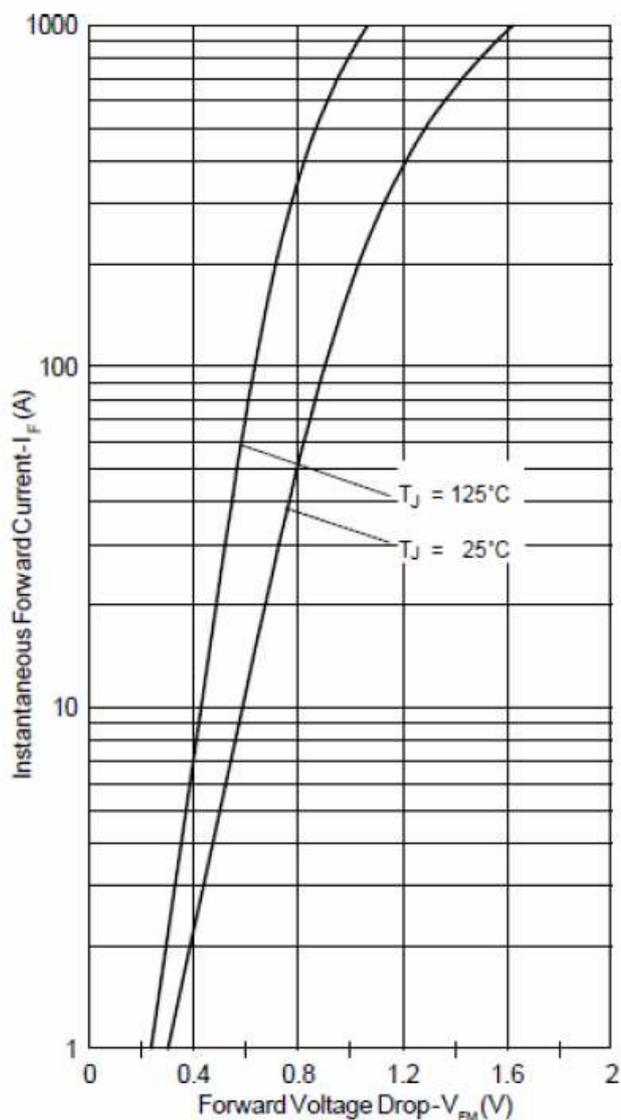


Fig.1 - Max. Forward Voltage Drop Characteristics

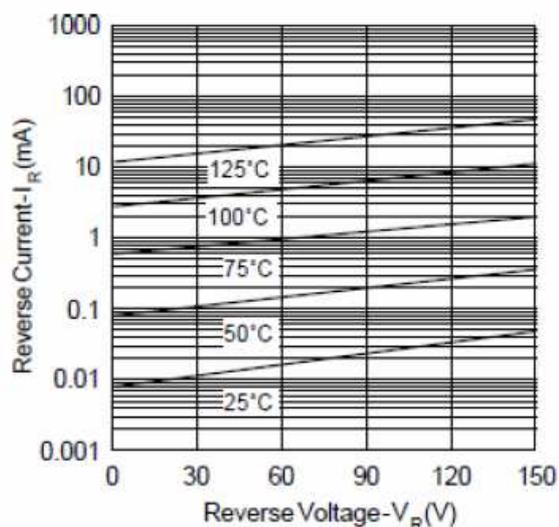


Fig.2-Typical Reverse Characteristics

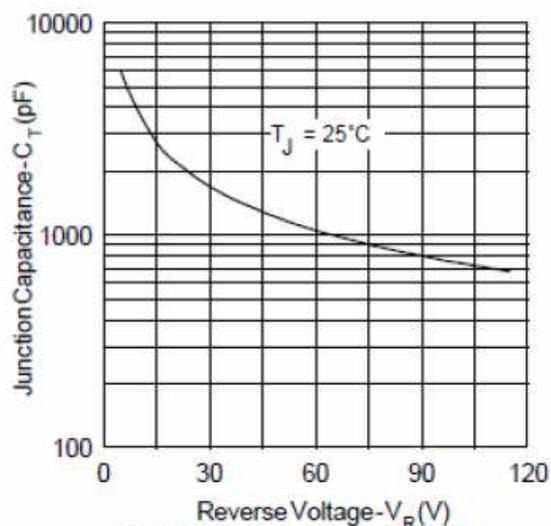


Fig.3 - Typical Junction Capacitance Vs. Reverse Voltage

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