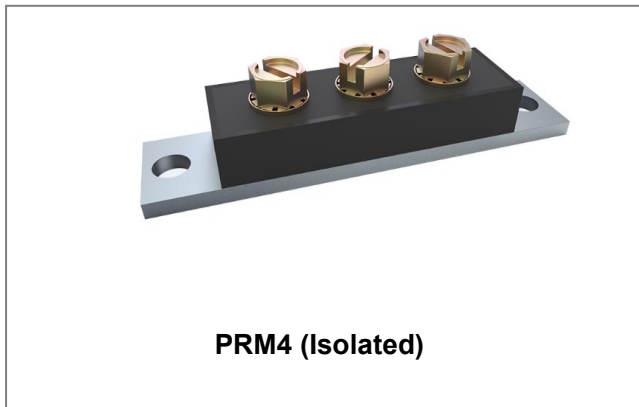


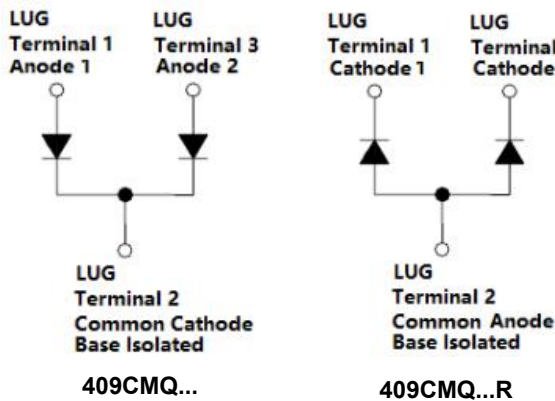
## 409CMQ135/R 409CMQ150/R SCHOTTKY RECTIFIER



### 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
- Baseplate: Nickel plated; Terminals: Nickel plated
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Applications

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

### Maximum Ratings:

Characteristics	Symbol	Condition	Max.		Units
			409CMQ135/R	409CMQ150/R	
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	-	135	409CMQ135/R	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		150	409CMQ150/R	
DC Blocking Voltage	V <sub>R</sub>				
Average Rectified Forward Current	I <sub>F(AV)</sub>	50% duty cycle @T <sub>c</sub> =105°C, rectangular wave form	200(Per Leg)		A
			400(Per Device)		
Peak One Cycle Non-Repetitive Surge Current (Per Leg)	I <sub>FSM</sub>	8.3 ms, half Sine pulse	2760		A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V <sub>F1</sub>	@ 200A, Pulse, T <sub>J</sub> = 25 °C @ 400A, Pulse, T <sub>J</sub> = 25 °C	0.91 1.10	1.03 1.21	V
	V <sub>F2</sub>	@ 200A, Pulse, T <sub>J</sub> = 125 °C @ 400A, Pulse, T <sub>J</sub> = 125 °C	0.68 0.80	0.72 0.83	V
Reverse Current(Per Leg)*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25 °C	0.05	6	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125 °C	50	85	mA
Junction Capacitance(Per leg)	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>sig</sub> = 1MHz	5500	6000	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs
Isolation Voltage	V <sub>ISO</sub>	Tracer to 1500V, measuring whether conducting base plate and the center column	-	1500	V

\* Pulse width < 300 μs, duty cycle < 2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units	
Junction Temperature	T <sub>J</sub>	-	-55 to +150	°C	
Storage Temperature	T <sub>stg</sub>	-	-55 to +150	°C	
Typical Thermal Resistance Junction to Case(Per leg)	R <sub>θJC</sub>	DC operation	0.40	°C/W	
Typical Thermal Resistance Junction to Case(Per package)	R <sub>θJC</sub>	DC operation	0.20	°C/W	
Typical Thermal Resistance, case to Heat Sink	R <sub>θcs</sub>	Mounting surface, smooth and greased	0.10	°C/W	
Mounting Torque	T <sub>M</sub>	-	Mounting Torque	24(min) 35(max)	Kg-cm
			Terminal Torque	35(min) 46(max)	
Approximate Weight	wt	-	79	g	
Case Style	PRM4 Isolated				

**Ratings and Characteristics Curves**

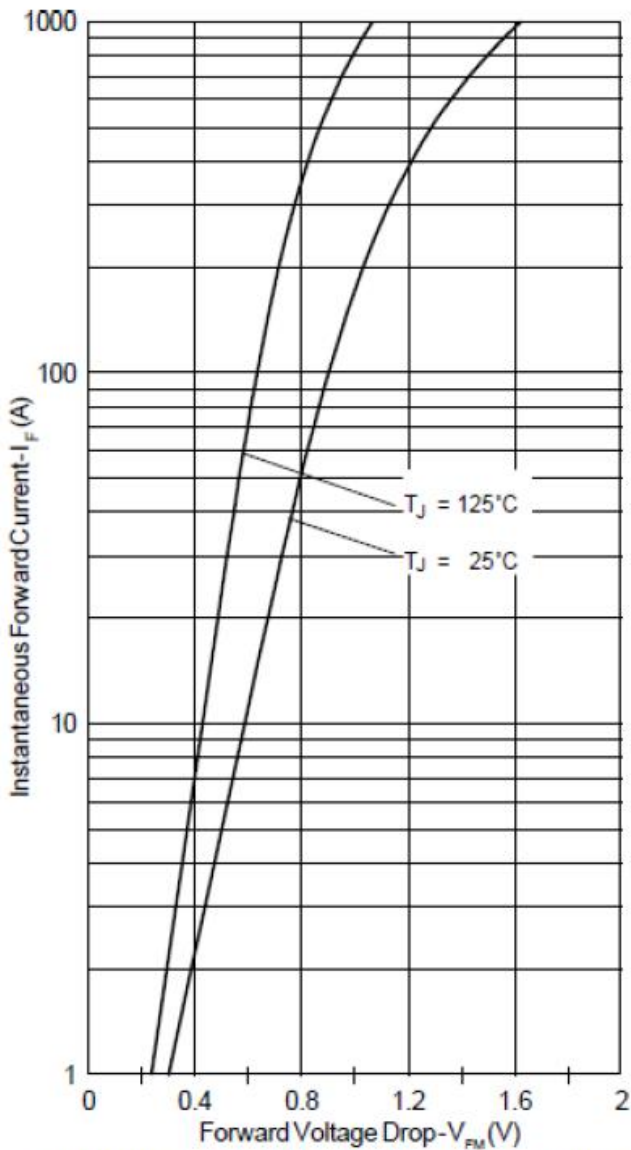


Fig. 1 - Max. Forward Voltage Drop Characteristics

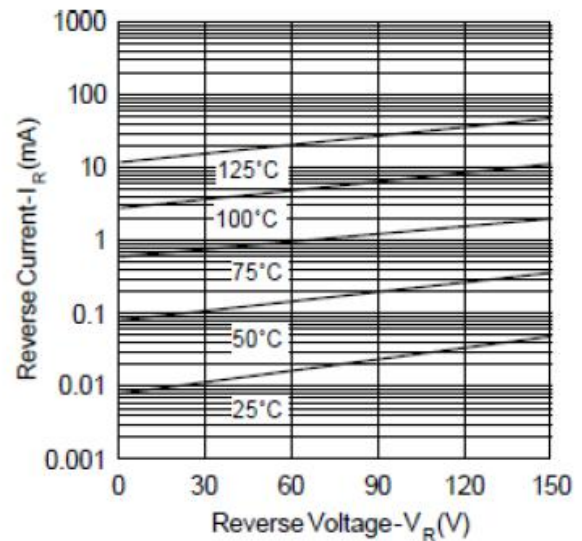


Fig. 2 - Typical Reverse Characteristics

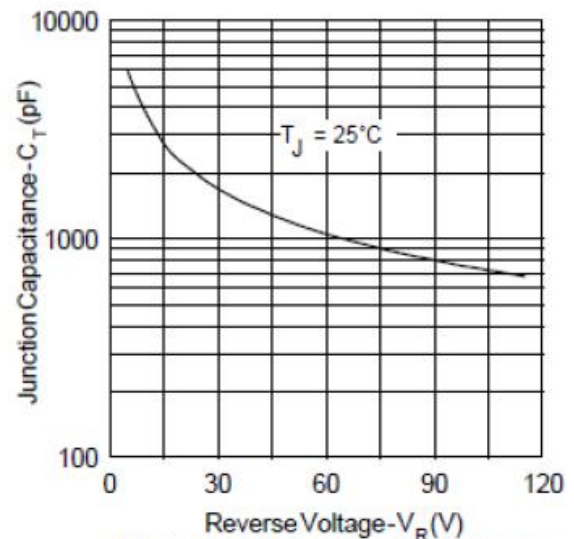
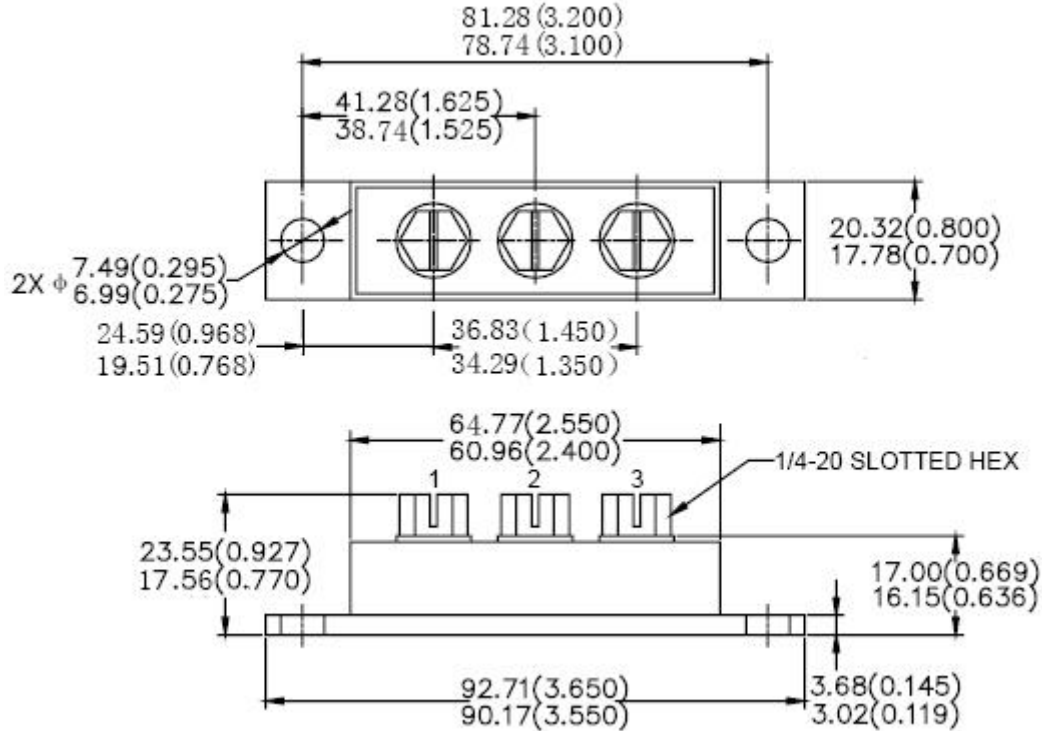


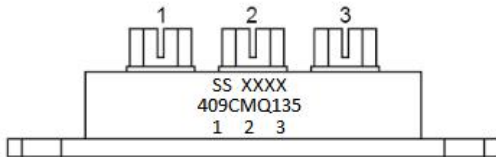
Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

**Mechanical Dimensions PRM4 Isolated(Millimeters/Inches)**



Please Note: Suffix "R" Denotes For Reversed Polarity

**Marking Diagram**



Where XXXX is YYWW

409CMQ135 = Part name  
SS = SS  
YY = Year  
WW = Week

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Ordering Information**

Device	Package	Shipping
409CMQ SERIES	PRM4 Isolated (Pb-Free)	9 pcs/box

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

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