



SENSITRON

SEMICONDUCTOR

209CMQ...SERIES

**TECHNICAL DATA
DATA SHEET**

209CMQ135/209CMQ150 SCHOTTKY RECTIFIER

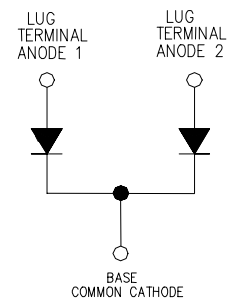
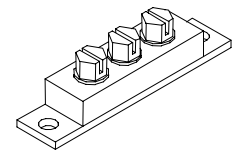
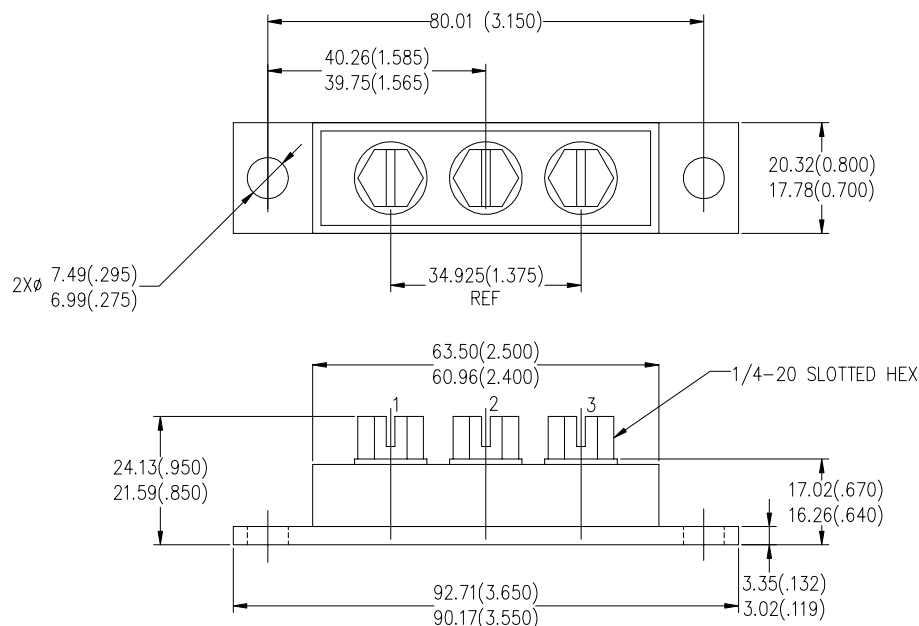
Applications:

- 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 – isolated base
- 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

Mechanical Dimensions: In Inches / mm



PRM4 (Isolated)

**Maximum Ratings:**

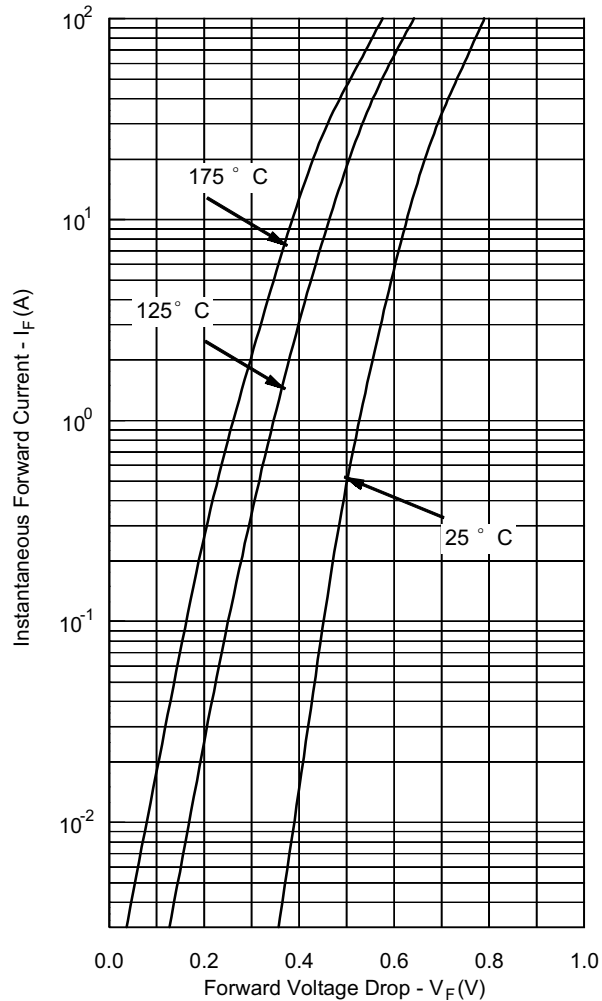
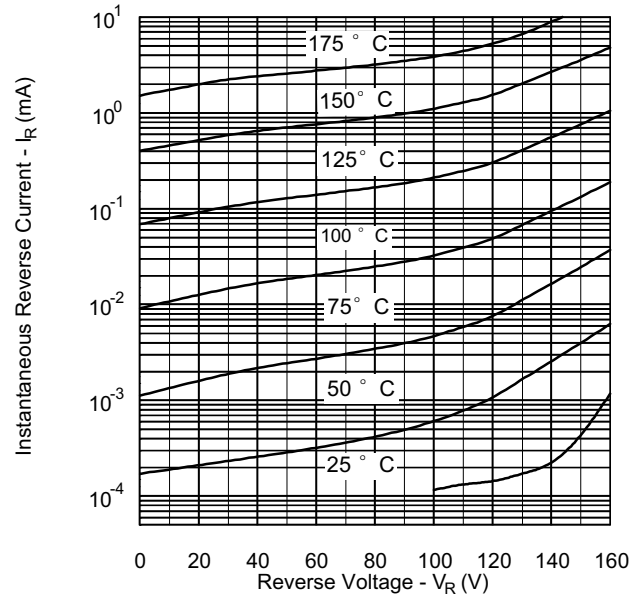
Characteristics	Symbol	Condition	Max.		Units
Peak Inverse Voltage	V_{RWM}	-	135	209CMQ135	V
			150	209CMQ150	
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 110^\circ\text{C}$, rectangular wave form	100	per leg	A
			200	Per Device	
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	1440		A
Non-Repetitive Avalanche Energy (per leg)	E_{AS}	$T_J = 25^\circ\text{C}$, $I_{AS} = 1\text{ A}$, $L = 30\text{mH}$	15		mJ
Repetitive Avalanche Current (per leg)	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical	1		A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg)*	V_{F1}	@ 100A, Pulse, $T_J = 25^\circ\text{C}$	1.03	V
		@ 200 A, Pulse, $T_J = 25^\circ\text{C}$	1.22	
	V_{F2}	@ 100 A, Pulse, $T_J = 125^\circ\text{C}$	0.71	V
		@ 200 A, Pulse, $T_J = 125^\circ\text{C}$	0.82	
Max. Reverse Current (per leg)*	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	3	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	45	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	3000	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		°C
Max. Storage Temperature	T _{stg}	-	-55 to +175		°C
Maximum Thermal Resistance Junction to Case (per leg)	R _{θJC}	DC operation	0.70		°C/W
Maximum Thermal Resistance Junction to Case (per package)	R _{θJC}	DC operation	0.35		°C/W
Maximum Thermal Resistance, Case to Heat Sink	R _{θCS}	Mounting surface, smooth and greased	0.10		°C/W
Approximate Weight	wt	-	79		g
Mounting Torque	T _M	-	Mounting Torque Base	24 (min) 35 (max)	Kg-cm
			Terminal Torque	35(min) 46 (max)	
Case Style	PRM4 Isolated				

**Typical Forward Characteristics****Typical Reverse Characteristics****Typical Junction Capacitance**