

Technical Data  
Data Sheet N1240, Rev. B

Green Products

## 209CNQ135/209CNQ150 SCHOTTKY RECTIFIER

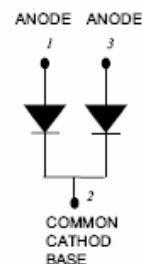
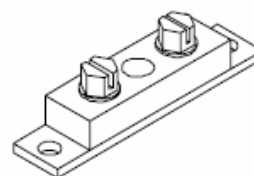
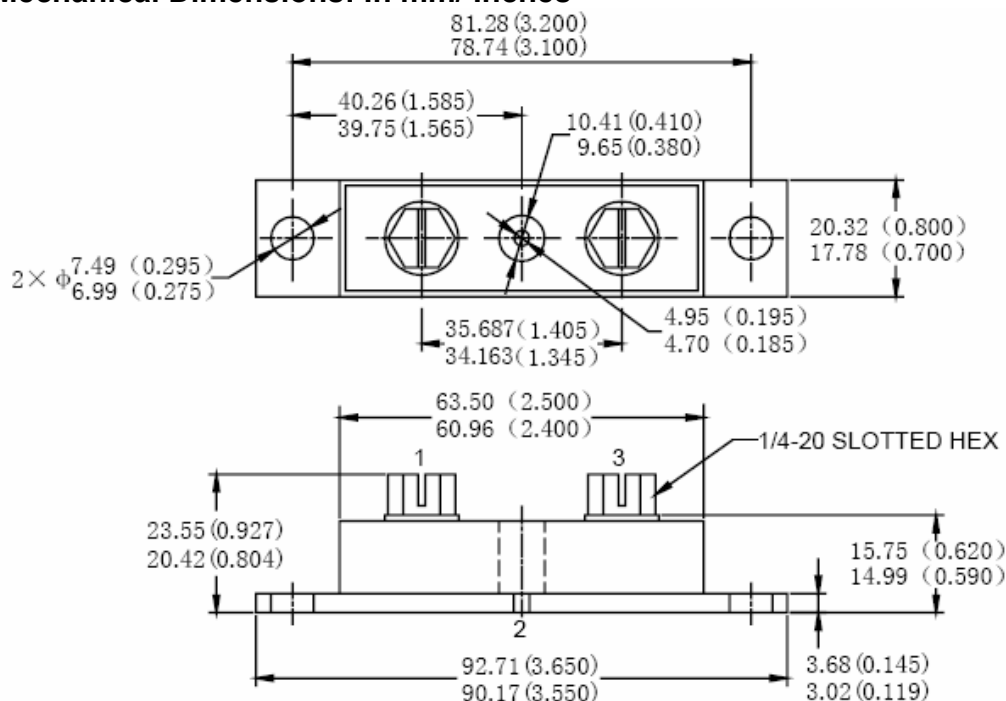
### Applications:

- 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
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- 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 209CNQ135/150, 1<sup>st</sup> row SS YYWWL, 2<sup>nd</sup> row 209CNQ135/150

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	209CNQ135	V
			150	209CNQ150	
Max. Average Forward Current *	$I_{F(AV)}$	50% duty cycle @ $T_C=110^{\circ}C$ , rectangular wave form	100	peg leg	A
			200	peg device	
Max. Peak One Cycle Non-Repetitive Surge Current (peg leg)	$I_{FSM}$	8.3 ms, half Sine pulse	1440		A

**Electrical Characteristics:**

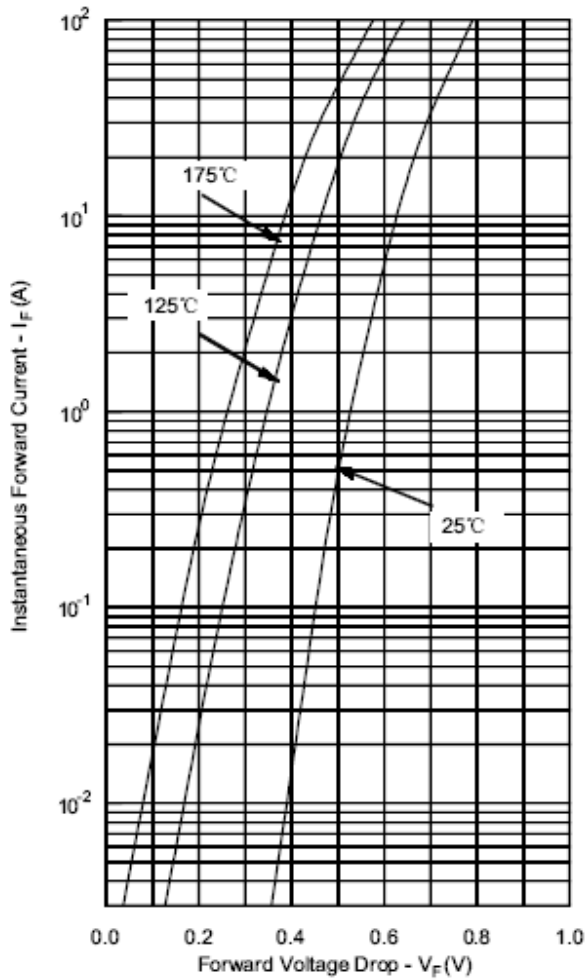
Characteristics	Symbol	Condition	Max.		Units
Max. Forward Voltage Drop (per leg) *	$V_{F1}$	@ 100A, Pulse, $T_J = 25^{\circ}C$ @ 200A, Pulse, $T_J = 25^{\circ}C$	1.03		V
	$V_{F2}$	@ 100A, Pulse, $T_J = 125^{\circ}C$ @ 200A, Pulse, $T_J = 125^{\circ}C$	0.71		
Max. Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R, T_J = 25^{\circ}C$	3		mA
	$I_{R2}$	@ $V_R = \text{rated } V_R, T_J = 125^{\circ}C$	45		
Max. Junction Capacitance (per leg)	$C_T$	@ $V_R = 5V, T_C = 25^{\circ}C$ $f_{SIG} = 1MHz$	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/ $\mu s$

\* Pulse Width < 300 $\mu s$ , Duty Cycle <2%

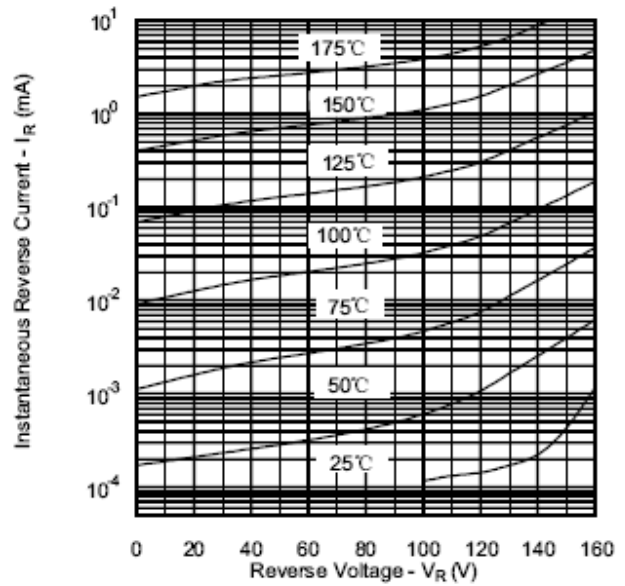
**Thermal-Mechanical Specifications:**

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	0.5		$^{\circ}C/W$
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)	Kg-cm
			Terminal Torque	35(min) 46(max)	
Approximate Weight	wt	-	79		g
Case Style	PRM4 Non-Isolated				

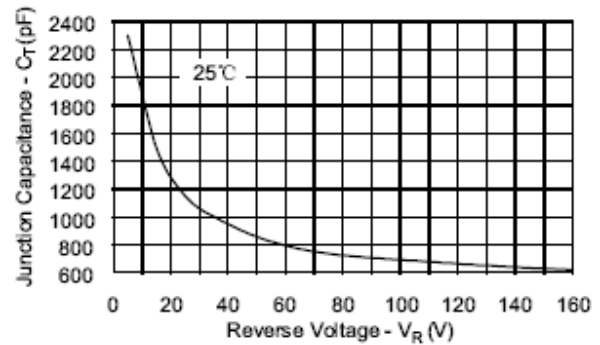
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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