

**TECHNICAL DATA
 DATA SHEET**

309CNQ135/309CNQ150 SCHOTTKY RECTIFIER

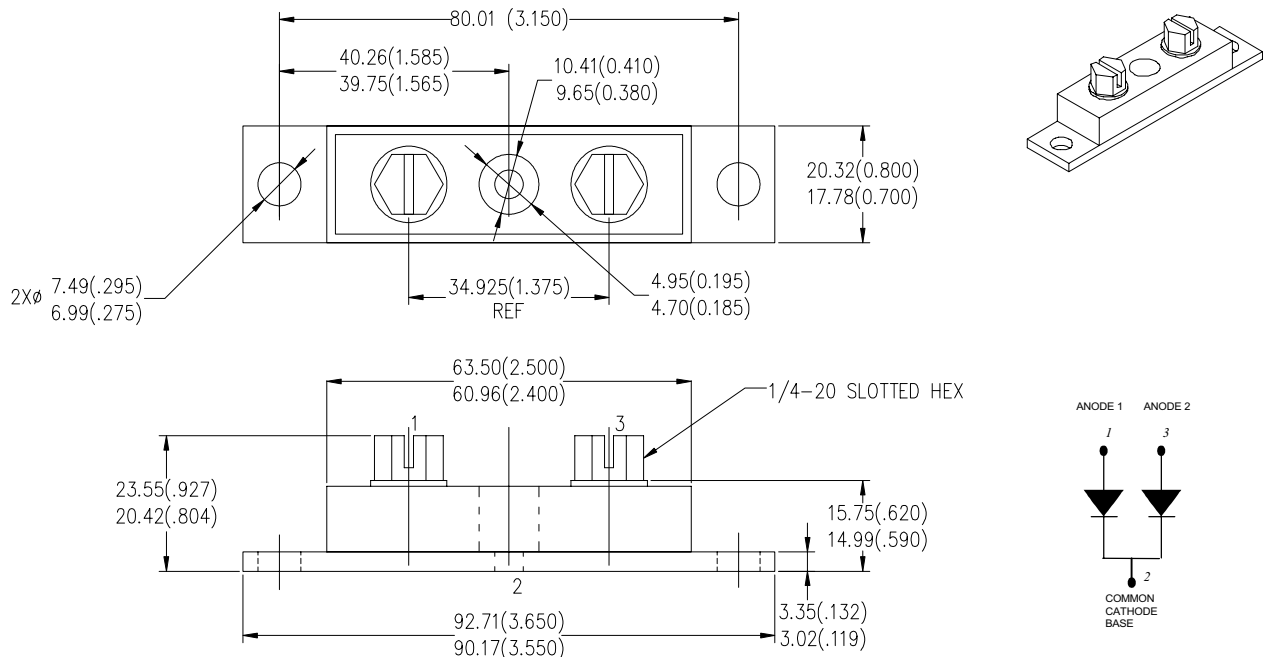
Applications:

- 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 (Non-Isolated)

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.		Units
Peak Inverse Voltage	V_{RWM}	-	135	309CNQ135	V
			150	309CNQ150	
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 110^\circ\text{C}$, rectangular wave form	150	Per Leg	A
			300	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}	@ 150A, Pulse, $T_J = 25^\circ\text{C}$	1.03	V
		@ 300 A, Pulse, $T_J = 25^\circ\text{C}$	1.22	
	V_{F2}	@ 150 A, Pulse, $T_J = 125^\circ\text{C}$	0.71	V
		@ 300 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}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	4000	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

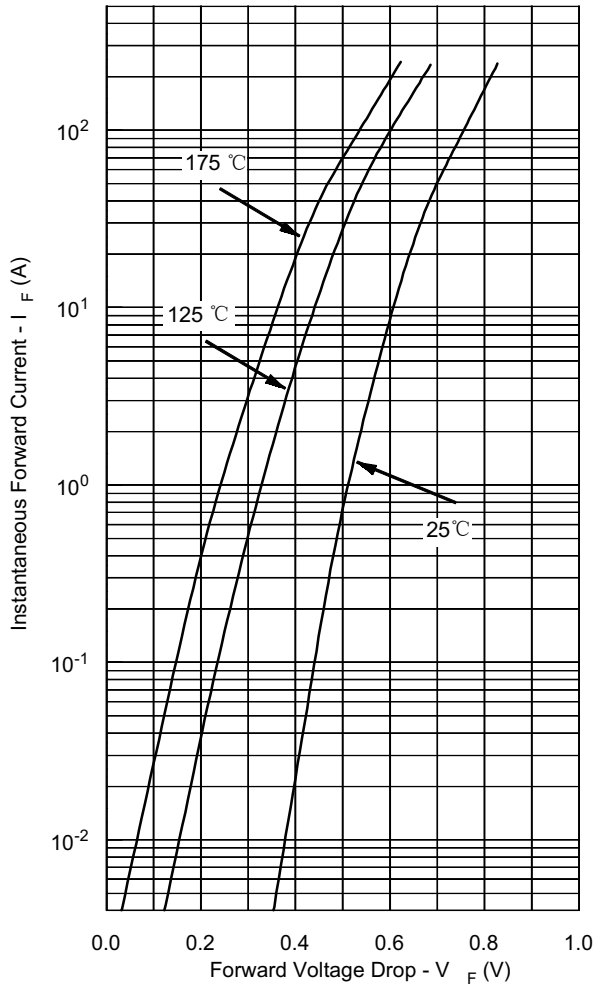
* Pulse Width < 300 μs , Duty Cycle <2%**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification		Units
Max. Junction Temperature	T_J	-	-55 to +175		$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-55 to +175		$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	0.30		$^\circ\text{C/W}$
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	0.15		$^\circ\text{C/W}$
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.10		$^\circ\text{C/W}$
Approximate Weight	wt	-	79		g
Mounting Torque	T_M	-	Mounting Torque Base	24 (min) 35 (max)	Kg-cm
			Mounting Torque Center Hole	13.5(Typ)	

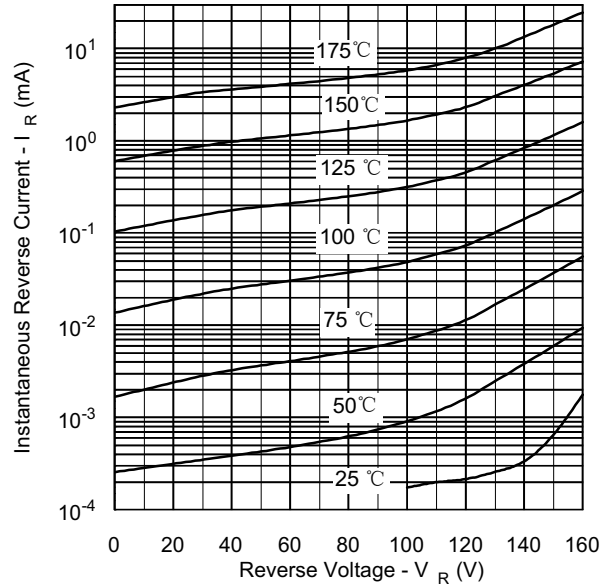


			Terminal Torque	35(min) 46 (max)	
Case Style	PRM4 Non-Isolated				

Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance

