

409CMQ135/150 SCHOTTKY RECTIFIER

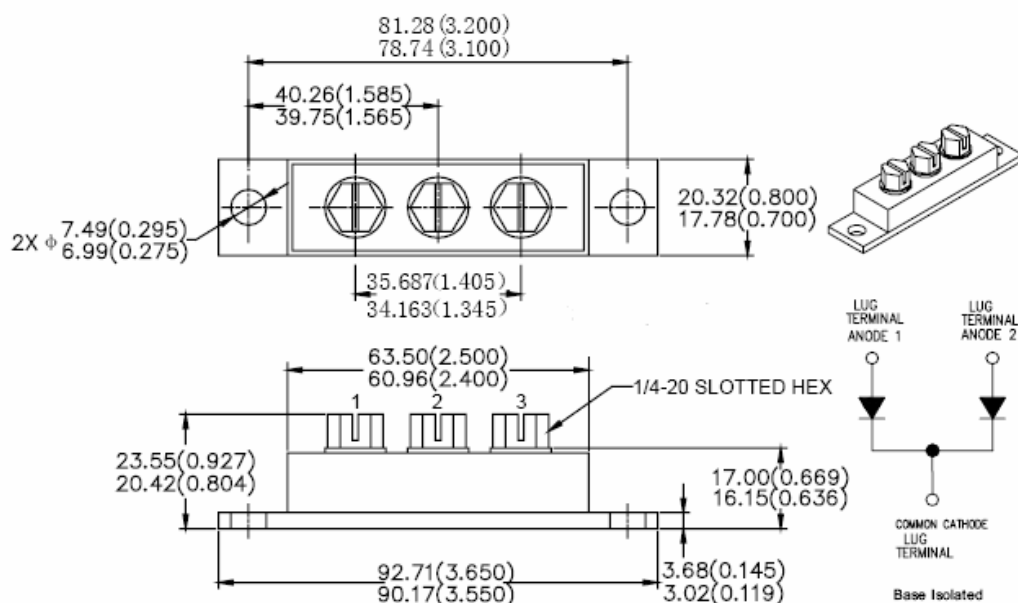
Applications:

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

Features:

- 175 °C T_J 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, 1st row SS YYWWL, 2nd 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

Maximum Ratings:

Characteristics	Symbol	Condition	Max.		Units
Peak Inverse Voltage	V_{RWM}	-	135	409CMQ135	V
			150	409CMQ150	
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C=105^\circ\text{C}$, rectangular wave form	200	per leg	A
			400	per device	
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) *	V_{F2}	@ 200A, Pulse, $T_J = 125^\circ\text{C}$	0.72	V
		@ 400A, Pulse, $T_J = 125^\circ\text{C}$	0.83	
Max. Junction Capacitance (per leg)	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	6	mA
		I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	
Typical Series Inductance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	6000	pF
Max. Voltage Rate of Change	L_S	Measured lead to lead 5 mm from package body	5.0	nH
	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 +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	24(min) 35(max)	Kg-cm
			Terminal Torque	35(min) 46(max)	
Approximate Weight	wt	-	79		g
Case Style	PRM4 Isolated				

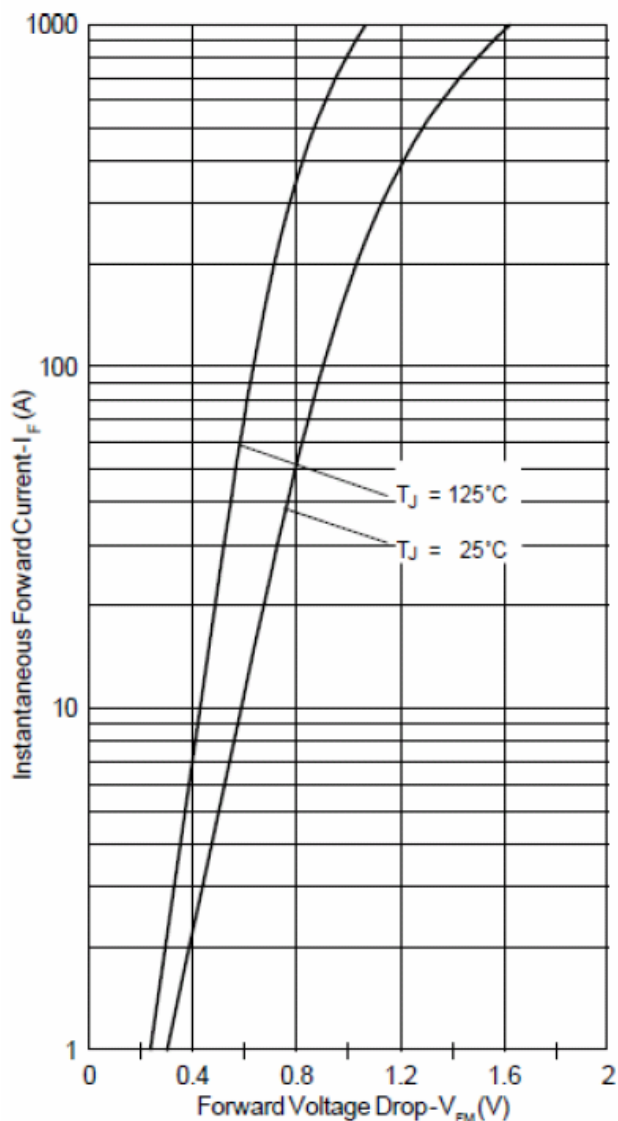


Fig. 1 - Max. Forward Voltage Drop Characteristics

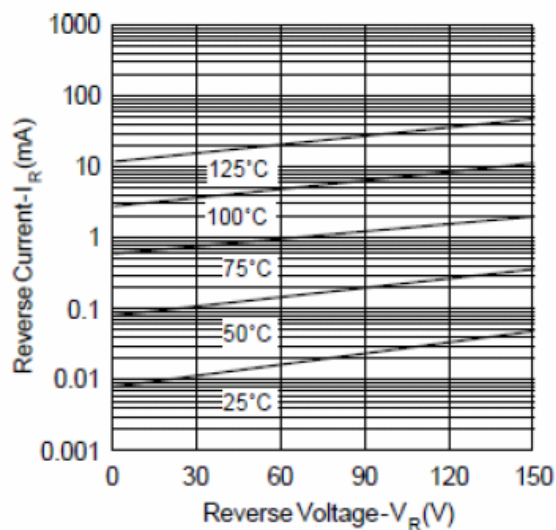


Fig.2-Typical Reverse Characteristics

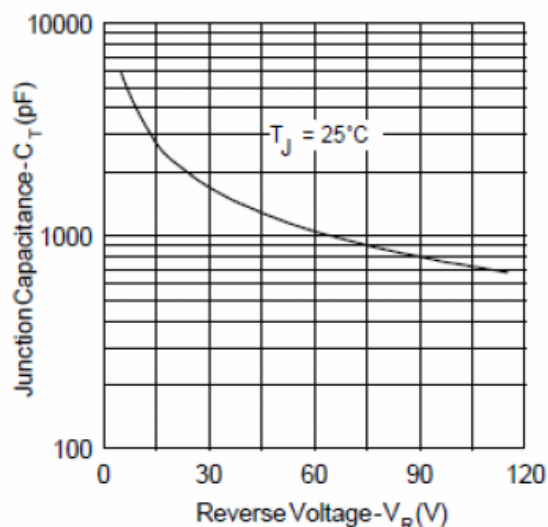


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

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