

Technical Data
Data Sheet N1187, Rev. B

Green Products

**201CMQ035/201CMQ040/201CMQ045/201CMQ050
SCHOTTKY RECTIFIER**

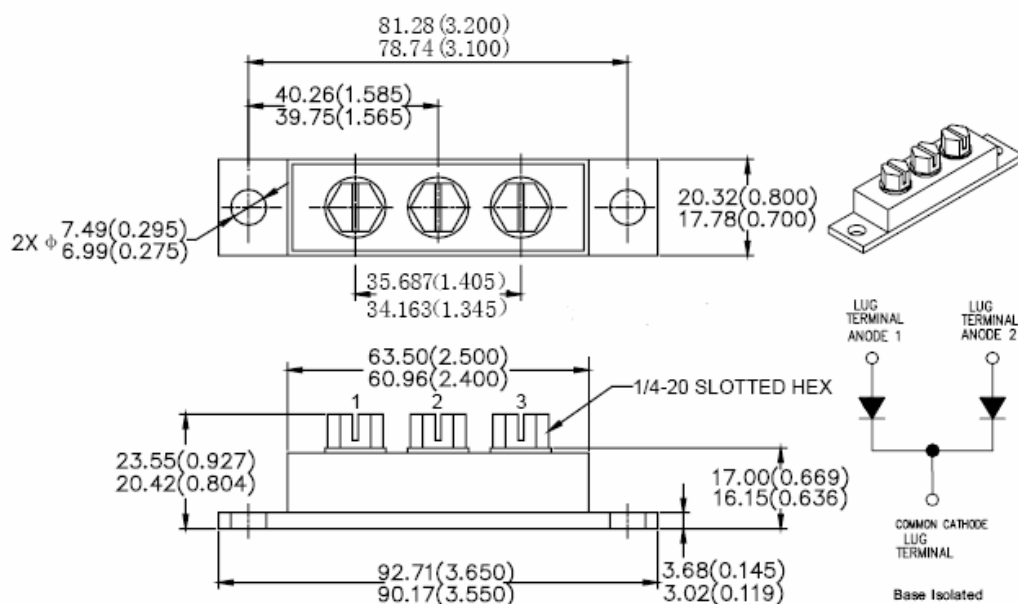
Applications:

- 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 201CMQ035/040/045/050, 1st row SS YYWWL, 2nd row 201CMQ035/040/045/050
 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

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Maximum Ratings:

Characteristics	Symbol	Condition	Max.		Units
Peak Inverse Voltage	V_{RWM}	-	35	201CMQ035	V
			40	201CMQ040	
			45	201CMQ045	
			50	201CMQ050	
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @ $T_C=121^\circ\text{C}$, 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	3840		A
Non-Repetitive Avalanche Energy(per leg)	E_{AS}	$T_J=25^\circ\text{C}, I_{AS}=20\text{A}, L=0.67\text{mH}$	135		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	20		A

Electrical Characteristics:

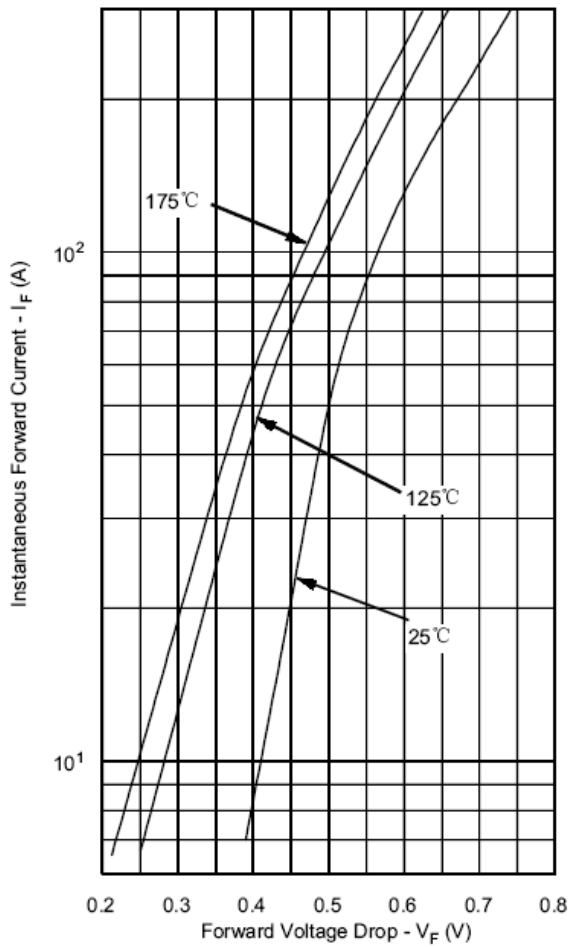
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 100A, Pulse, $T_J = 25^\circ\text{C}$	0.67	V
		@ 200A, Pulse, $T_J = 25^\circ\text{C}$	0.81	
Max. Reverse Current (per leg) *	V_{F2}	@ 100A, Pulse, $T_J = 125^\circ\text{C}$	0.58	V
		@ 200A, Pulse, $T_J = 125^\circ\text{C}$	0.71	
Max. Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	10	mA
		@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	90	
Max. Junction Capacitance (per leg)	I_{R2}	@ $V_R = 5\text{V}, T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	5200	pF
Typical Series Inductance (per leg)	C_T	Measured lead to lead 5 mm from package body	7.0	nH
Max. Voltage Rate of Change	L_S	-	10,000	V/ μs

* Pulse Width < 300 μs , Duty Cycle <2%

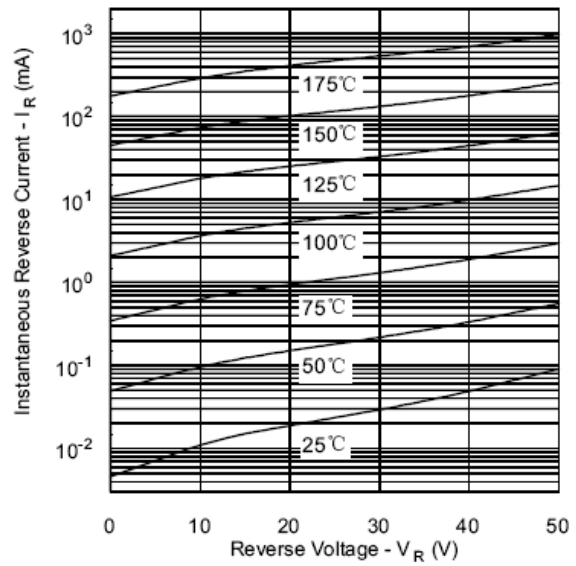
Thermal-Mechanical Specifications:

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	0.70	$^\circ\text{C/W}$	
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	0.35	$^\circ\text{C/W}$	
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				

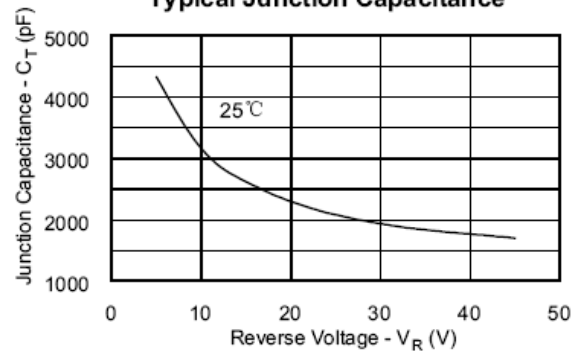
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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