

Technical Data  
Data Sheet N0989, Rev. D

## 203CMQ080/100 SCHOTTKY RECTIFIER

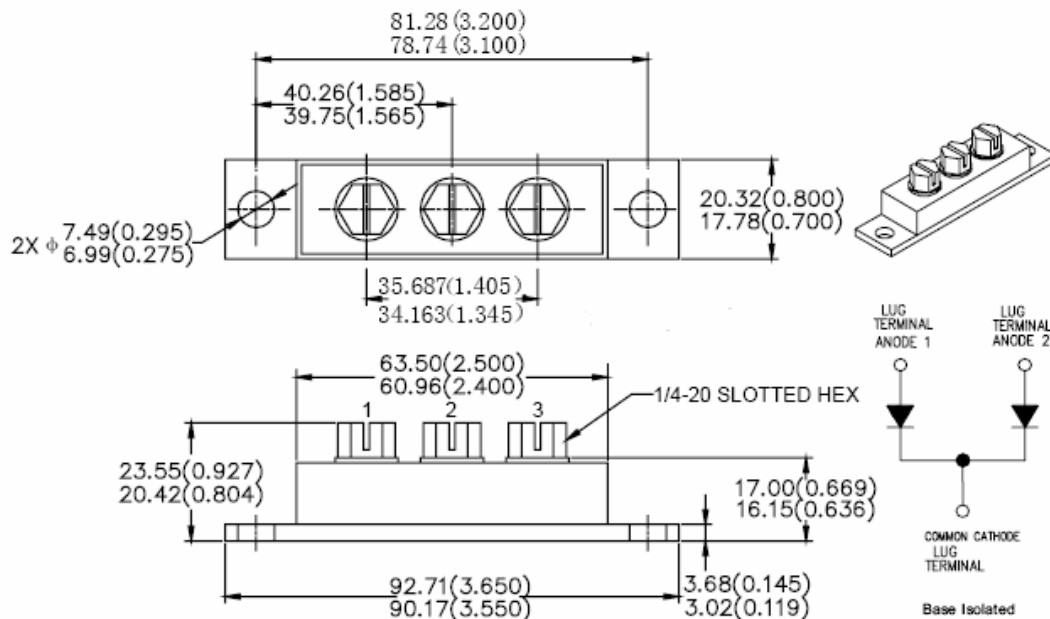
### Applications:

- 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
- 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
- Product contain Pb
- 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 203CMQ080/100, 1<sup>st</sup> row SS YYWWL, 2<sup>nd</sup> row 203CMQ080/100

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 <sub>RWM</sub>	-	80	203CMQ080	V
			100	203CMQ100	
Average Forward Current	I <sub>F(AV)</sub>	50% duty cycle @T <sub>C</sub> = 110°C, rectangular wave form	100	per leg	A
			200	per device	
Peak One Cycle Non-Repetitive Surge Current (per leg)	I <sub>FSM</sub>	8.3 ms, half Sine pulse	2520		A
Non-Repetitive Avalanche Energy(per leg)	E <sub>AS</sub>	T <sub>J</sub> =25°C, I <sub>AS</sub> =1A, L=30mH	15		mJ
Repetitive Avalanche Current(per leg)	I <sub>AR</sub>	Current decaying linearly to zero in 1 μsec Frequency limited by T <sub>J</sub> max. V <sub>A</sub> =1.5×V <sub>R</sub> typical	1		A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop (per leg) *	V <sub>F1</sub>	@ 100A, Pulse, T <sub>J</sub> = 25 °C @ 200A, Pulse, T <sub>J</sub> = 25 °C	0.86 1.03	V
	V <sub>F2</sub>	@ 100A, Pulse, T <sub>J</sub> = 125 °C @ 200A, Pulse, T <sub>J</sub> = 125 °C	0.70 0.84	V
Reverse Current (per leg) *	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 25 °C	3	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 125 °C	40	mA
Junction Capacitance (per leg)	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz	2650	pF
Typical Series Inductance (per leg)	L <sub>S</sub>	Measured lead to lead 5 mm from package body	7.0	nH
Voltage Rate of Change	dv/dt	-	10,000	V/μs
Insulation Voltage	V <sub>RMS</sub>	-	1000	V

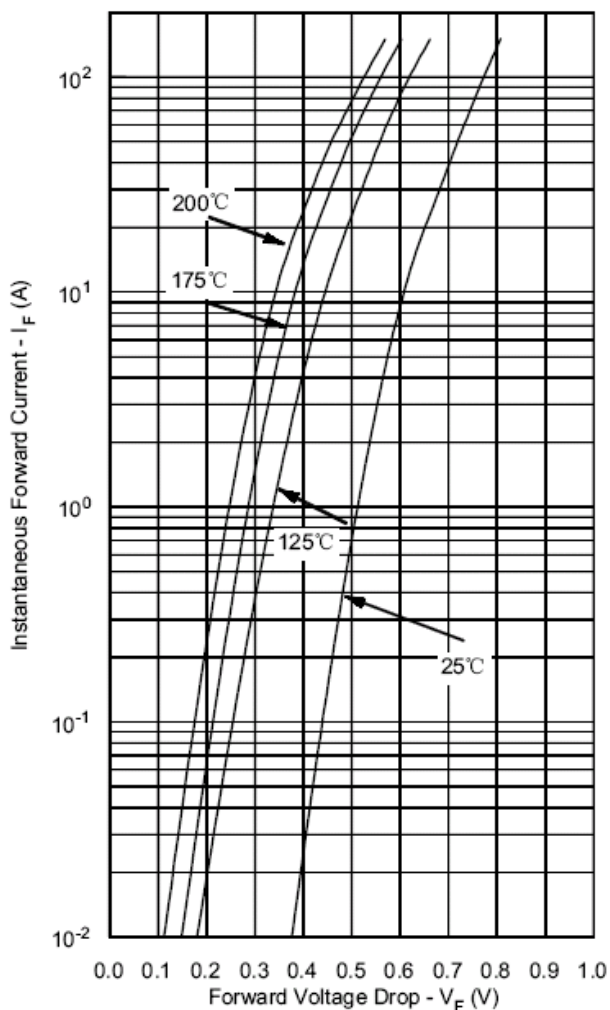
\* Pulse Width < 300μs, Duty Cycle < 2%

**Thermal-Mechanical Specifications:**

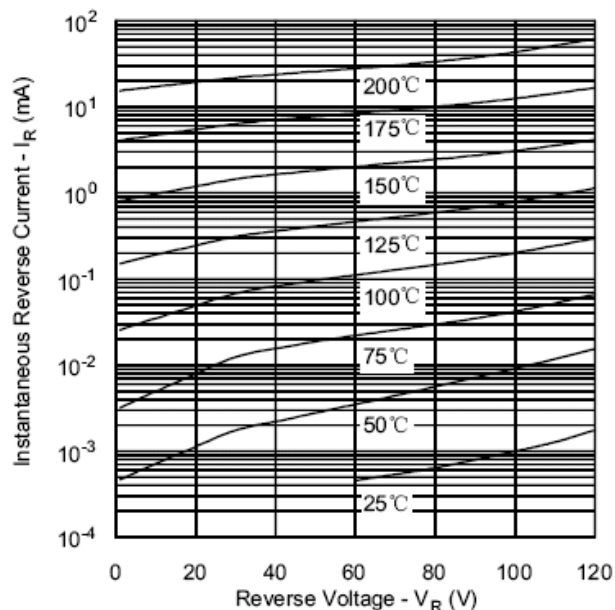
Characteristics	Symbol	Condition	Specification		Units
Junction Temperature	T <sub>J</sub>	-	-55 to +175		°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +175		°C
Maximum Thermal Resistance Junction to Case (per leg)	R <sub>θJC</sub>	DC operation	0.70		°C/W
Maximum Thermal Resistance Junction to Case (per package)	R <sub>θJC</sub>	DC operation	0.35		°C/W
Typical Thermal Resistance, case to Heat Sink	R <sub>θcs</sub>	Mounting surface, smooth and greased	0.10		°C/W
Mounting Torque	T <sub>M</sub>	-	Mounting Torque	24(min) 35(max)	Kg-cm
			Terminal Torque	35(min) 46(max)	
Approximate Weight	wt	-	79		g
Case Style	PRM4 Isolated				

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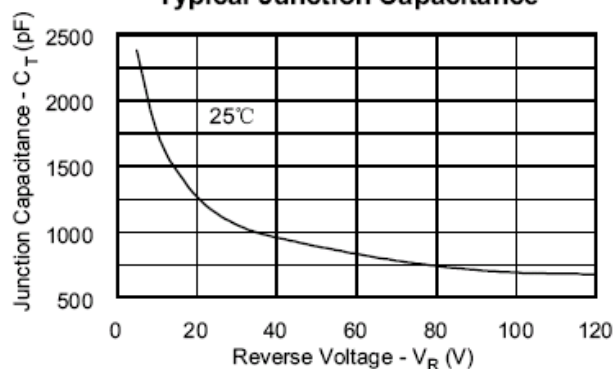
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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