

Technical Data
Data Sheet N0989, Rev. D

203CMQ080/100 SCHOTTKY RECTIFIER

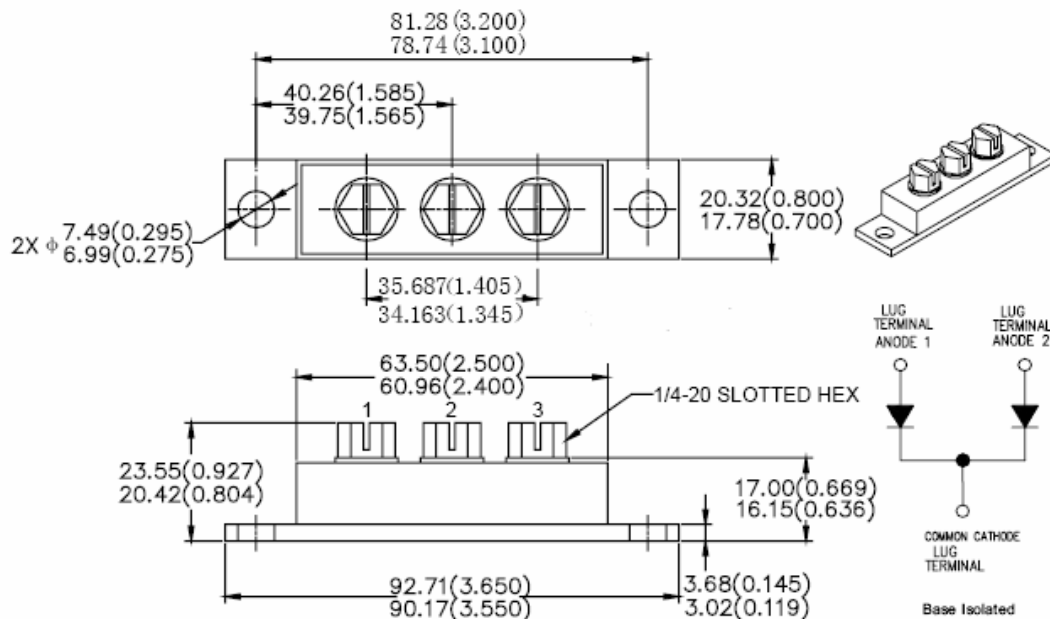
Applications:

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

Features:

- 175°C T_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
- 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, 1st row SS YYWWL, 2nd 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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Data Sheet N0989, Rev. D

Maximum Ratings:

Characteristics	Symbol	Condition	Max.		Units
Peak Inverse Voltage	V_{RWM}	-	80	203CMQ080	V
			100	203CMQ100	
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 110^\circ\text{C}$, rectangular wave form	100	per leg	A
			200	per device	
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	2520		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
Forward Voltage Drop (per leg) *	V_{F1}	@ 100A, Pulse, $T_J = 25^\circ\text{C}$ @ 200A, Pulse, $T_J = 25^\circ\text{C}$	0.86 1.03	V
	V_{F2}	@ 100A, Pulse, $T_J = 125^\circ\text{C}$ @ 200A, Pulse, $T_J = 125^\circ\text{C}$	0.70 0.84	V
Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	3	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	40	mA
Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	2650	pF
Typical Series Inductance (per leg)	L_S	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_{RMS}	-	1000	V

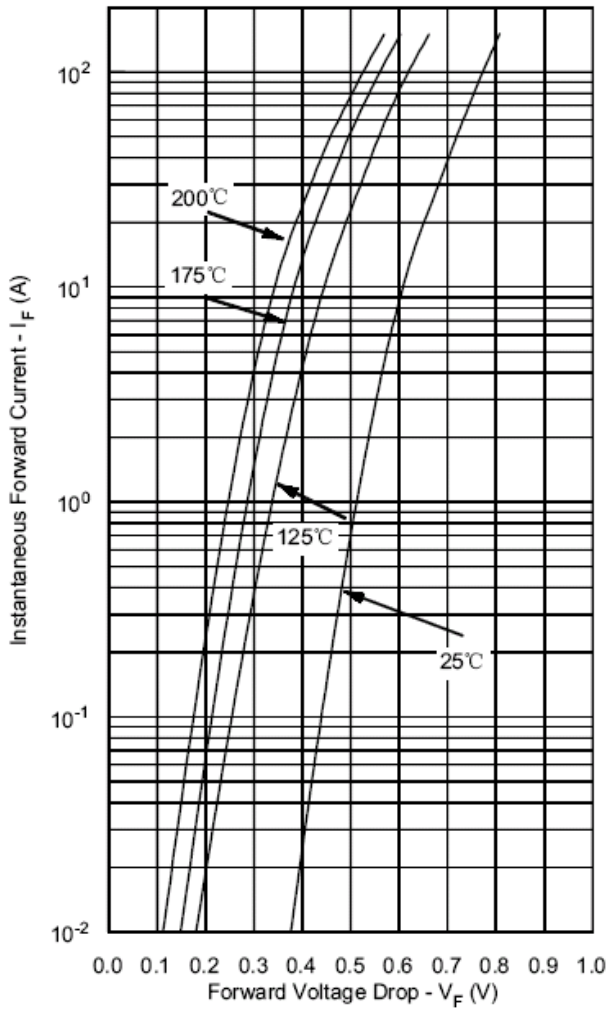
 * Pulse Width < 300 μs , Duty Cycle < 2%

Thermal-Mechanical Specifications:

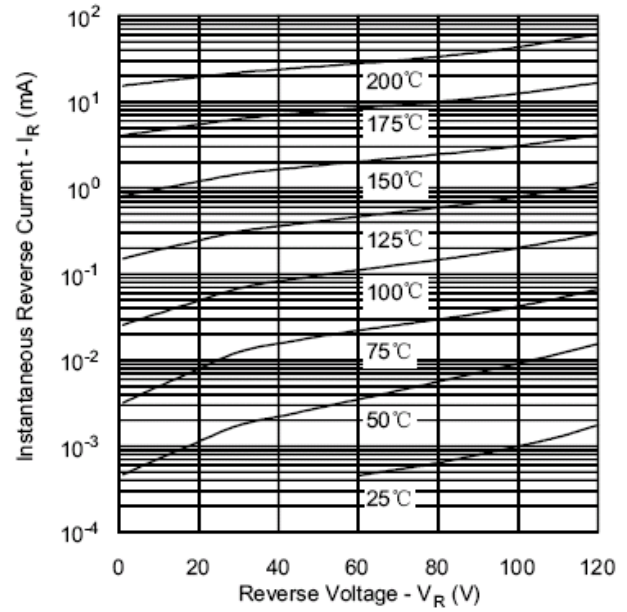
Characteristics	Symbol	Condition	Specification		Units
Junction Temperature	T_J	-	-55 to +175		$^\circ\text{C}$
Storage Temperature	T_{stg}	-	-55 to +175		$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	0.70		$^\circ\text{C/W}$
Maximum Thermal Resistance 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				

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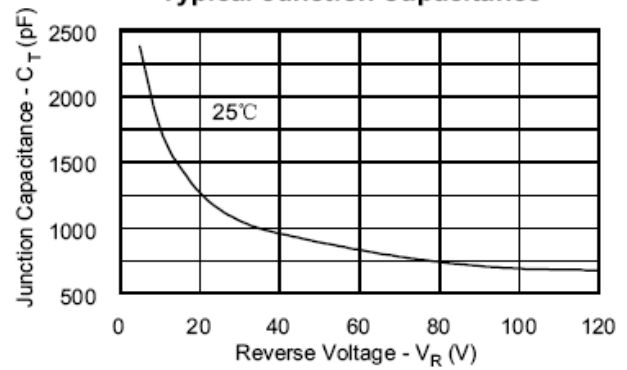
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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Data Sheet N0989, Rev. D

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