

Technical Data
Data Sheet N0989, Rev. E

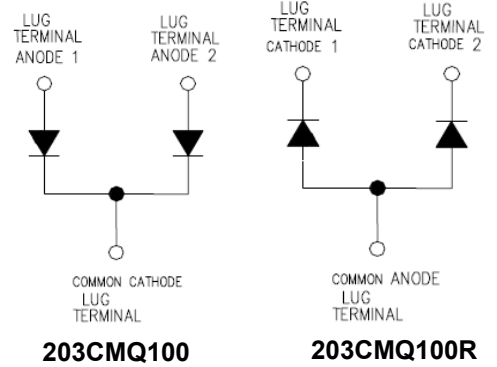
203CMQ SERIES SCHOTTKY RECTIFIER

Applications:

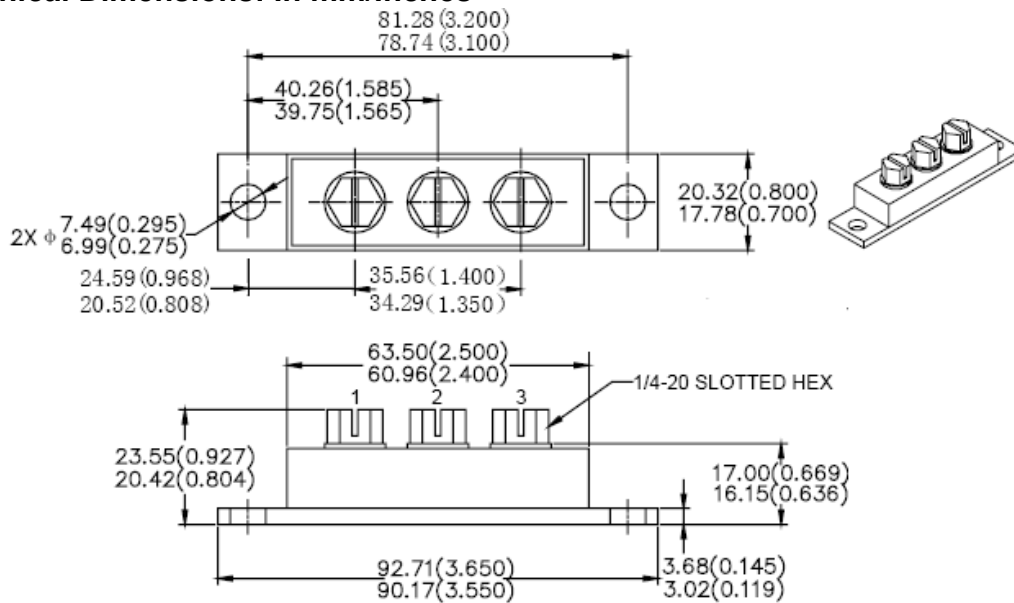
- High current switching power supply • Plating power supply • Free-Wheeling diodes
- Reverse battery protection • Converters • UPS System • Welding

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



PRM4 (Isolated)

MARKING, MOLDING RESIN

Marking for the device, 1st row SS YYWWL, 2nd row is Part Number
 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}	-	80	203CMQ080/R
			100	203CMQ100/R
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 110^\circ\text{C}$, rectangular wave form	100	per leg
			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, $T_J = 25^\circ\text{C}$	0.86	V
		@ 200A, Pulse, $T_J = 25^\circ\text{C}$	1.03	
	V_{F2}	@ 100A, Pulse, $T_J = 125^\circ\text{C}$	0.70	V
		@ 200A, Pulse, $T_J = 125^\circ\text{C}$	0.84	
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%

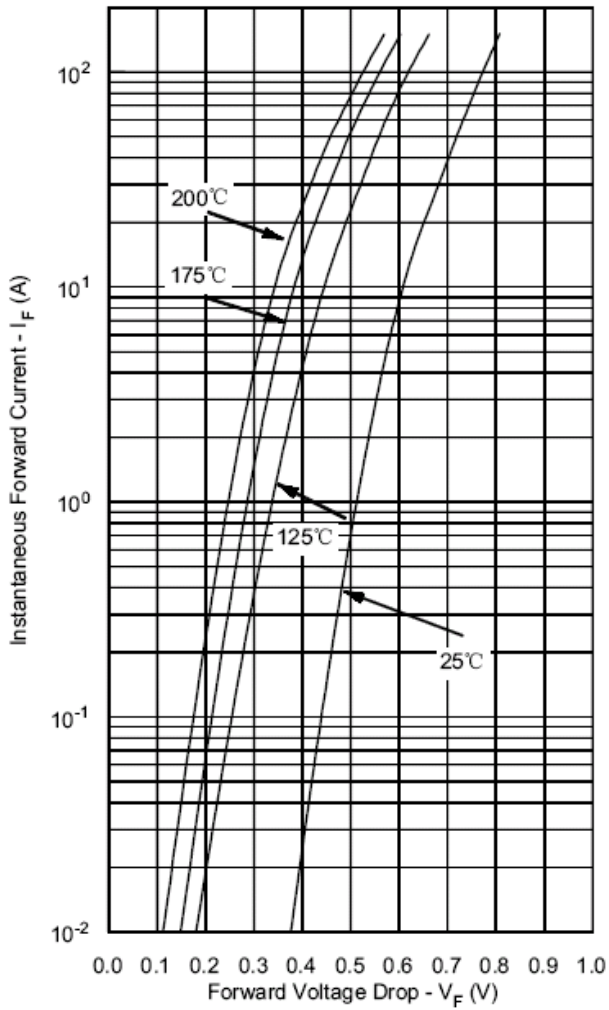
Thermal-Mechanical Specifications:

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)
			Terminal Torque	35(min) 46(max)
Approximate Weight	wt	-	79	g
Case Style	PRM4 Isolated			

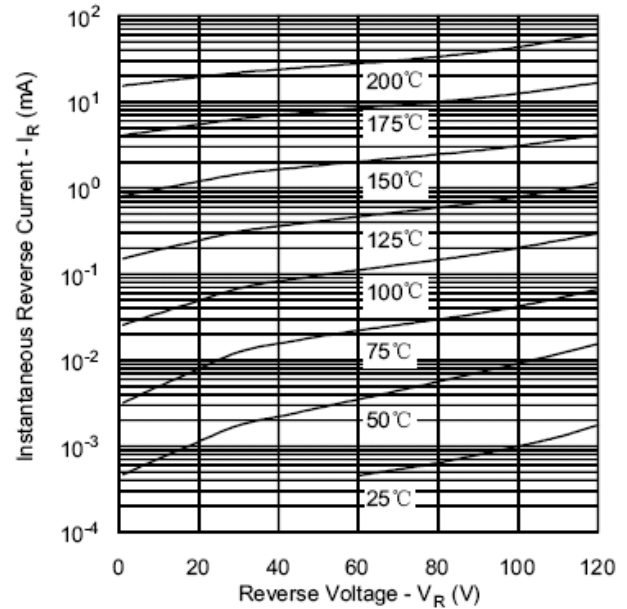
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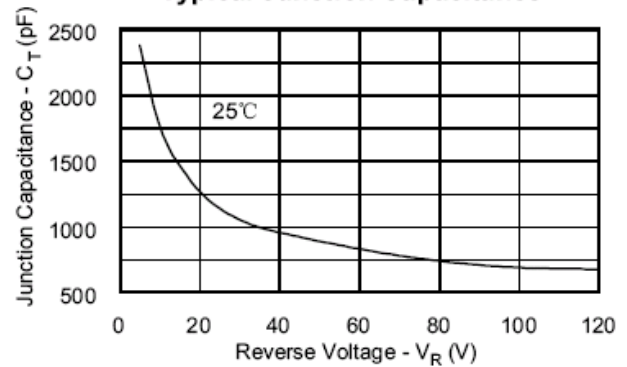
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance





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