

## 303CNQ080/303CNQ100 SCHOTTKY RECTIFIER

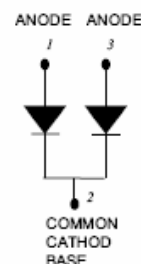
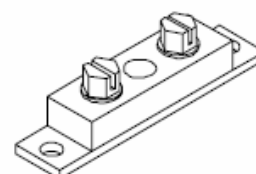
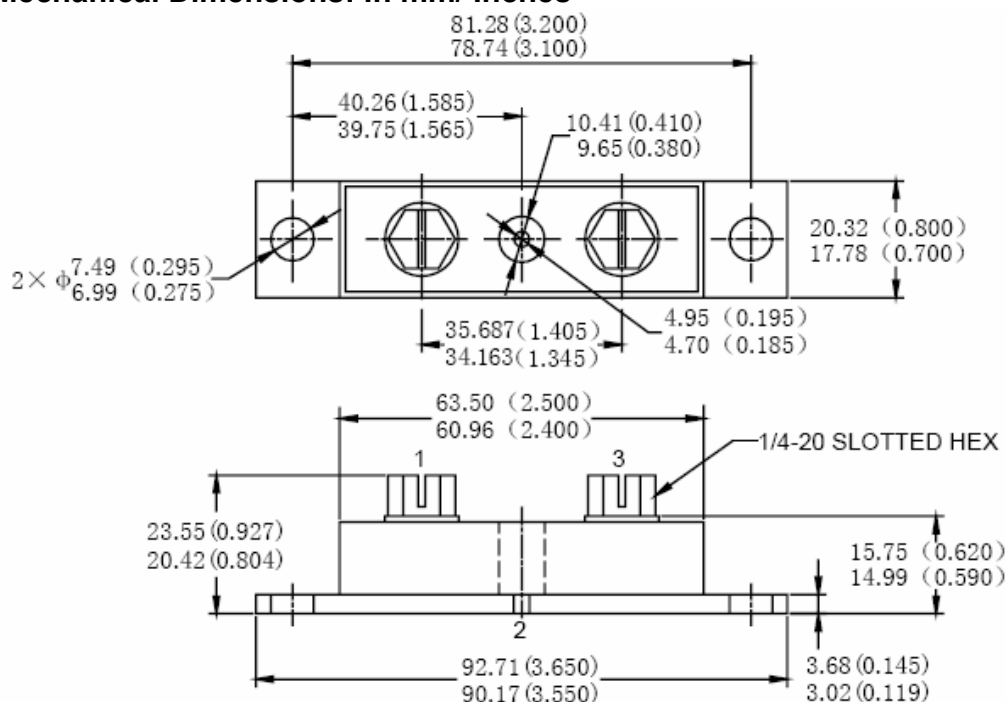
### Applications:

- 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
- 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



### PRM4 (Non-Isolated)

#### MARKING, MOLDING RESIN

Marking for 303CNQ080/100, 1<sup>st</sup> row SS YYWWL, 2<sup>nd</sup> row 303CNQ080/100

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

**Technical Data**  
**Data Sheet N1214, Rev. B**  
**Maximum Ratings:**
**Green Products**

Characteristics	Symbol	Condition	Max.		Units
Peak Inverse Voltage	$V_{RWM}$	-	80	303CNQ080	V
			100	303CNQ100	
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C=126^{\circ}C$ , rectangular wave form	150	per leg	A
			300	per device	
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	3000		A
Non-Repetitive Avalanche Energy(per leg)	$E_{AS}$	$T_J=25^{\circ}C, I_{AS}=1A, L=30mH$	15		mJ
Repetitive Avalanche Current(per leg)	$I_{AR}$	Current decaying linearly to zero in 1 $\mu$ sec Frequency limited by $T_J$ max. $V_A=1.5 \times V_R$ typical	1		A

**Electrical Characteristics:**

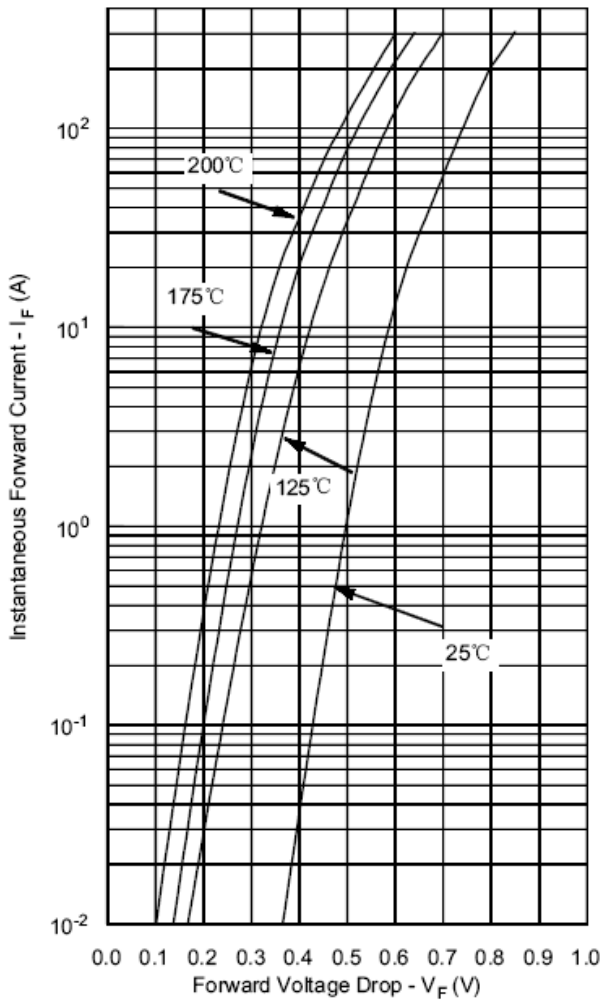
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	$V_{F1}$	@ 150A, Pulse, $T_J = 25^{\circ}C$	0.91	V
		@ 300A, Pulse, $T_J = 25^{\circ}C$	1.09	
	$V_{F2}$	@ 150A, Pulse, $T_J = 125^{\circ}C$	0.72	V
		@ 300A, Pulse, $T_J = 125^{\circ}C$	0.85	
Max. Reverse Current (per leg) *	$I_{R1}$	@ $V_R =$ rated $V_R$ $T_J = 25^{\circ}C$	4.5	mA
		@ $V_R =$ rated $V_R$ $T_J = 125^{\circ}C$	60	
Max. Junction Capacitance (per leg)	$C_T$	@ $V_R = 5V, T_C = 25^{\circ}C$ $f_{SIG} = 1MHz$	4150	pF
Typical Series Inductance (per leg)	$L_S$	Measured lead to lead 5 mm from package body	6.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ $\mu$ s

\* Pulse Width < 300 $\mu$ s, Duty Cycle <2%

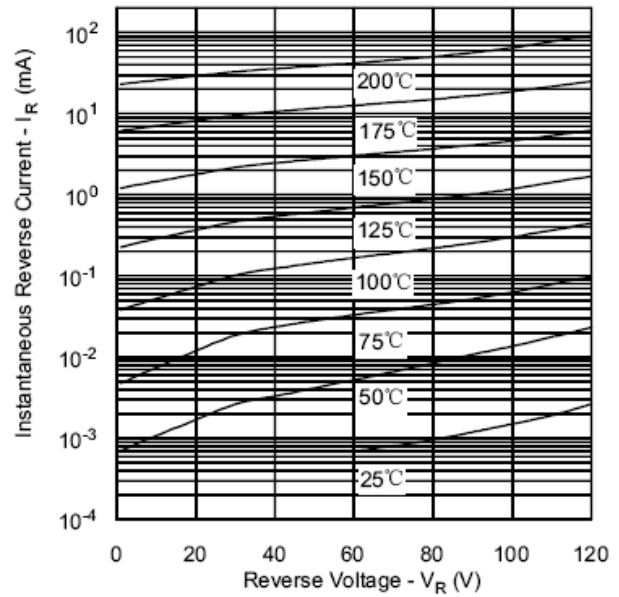
**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification		Units
Max. Junction Temperature	$T_J$	-	-55 to +175		$^{\circ}C$
Max. Storage Temperature	$T_{stg}$	-	-55 to +175		$^{\circ}C$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	0.40		$^{\circ}C/W$
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	0.20		$^{\circ}C/W$
Typical Thermal Resistance, case to Heat Sink	$R_{\theta cs}$	Mounting surface, smooth and greased	0.10		$^{\circ}C/W$
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 Non-Isolated				

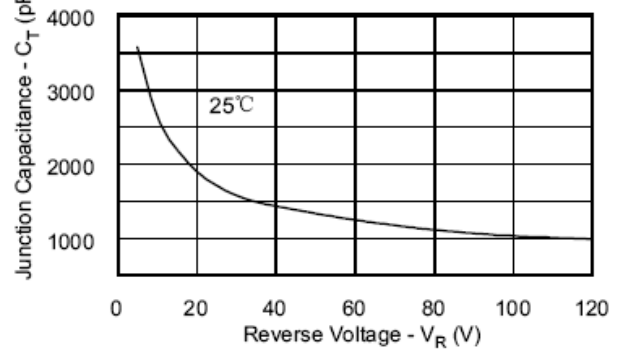
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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