Technical Data *Green Products*
Data Sheet N1445, Rev. -

503CNQ080/503CNQ100 SCHOTTKY RECTIFIER

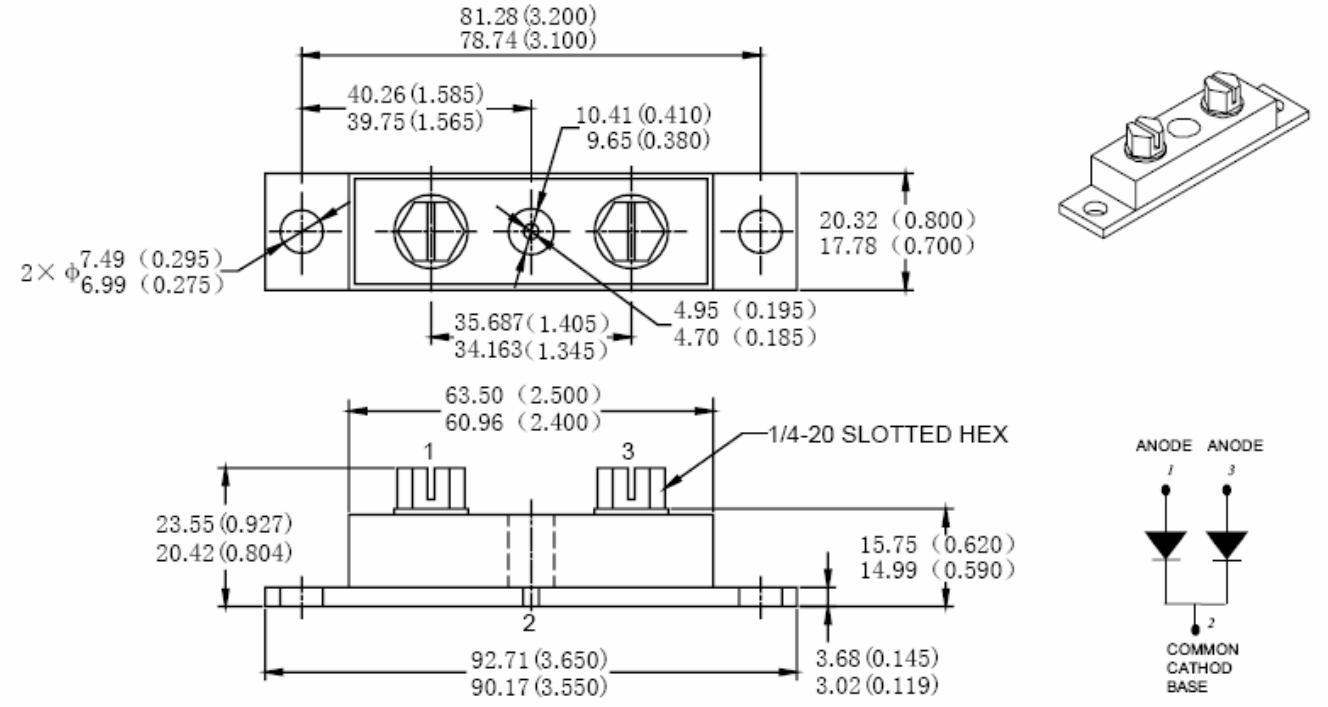
Applications:

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

Features:

- 175℃ 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



PRM4 (Non-Isolated)

MARKING,MOLDING RESIN
Marking for 503CNQ080/100, 1st row SS YYWWL, 2nd row 503CNQ080/100
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 N1445, Rev. -

Green Products

Maximum Ratings:

Characteristics	Symbol	Condition	Max.		Units
Peak Inverse Voltage	V_{RWM}	-	80	503CNQ080	V
			100	503CNQ100	
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_C =122℃, rectangular wave form	250	per leg	A
			500	per device	
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	5000		A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 250A, Pulse, T_J = 25 °C	0.90	V
	V_{F2}	@ 250A, Pulse, T_J = 175 °C	0.72	V
Max. Reverse Current (per leg) *	I_{R1}	@V_R = rated V_R T_J = 25 °C	8	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	200	mA
Max. Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	7200	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	5.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/µs

* Pulse Width < 300µs, Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification		Units
Max. Junction Temperature	T_J	-	-55 to +175		°C
Max. Storage Temperature	T_{stg}	-	-55 to +175		°C
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	0.24		°C/W
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	0.12		°C/W
Typical Thermal Resistance, case to Heat Sink	$R_{\theta cs}$	Mounting surface, smooth and greased	0.08		°C/W
Mounting Torque	T_M	-	Mounting Torque	24(min) 35(max)	Kg-cm
			Terminal Torque	35(min) 46(max)	
Approximate Weight	wt	-	78		g
Case Style	PRM4 Non-Isolated				

Figure 1
Typical Forward Characteristics – Per Leg

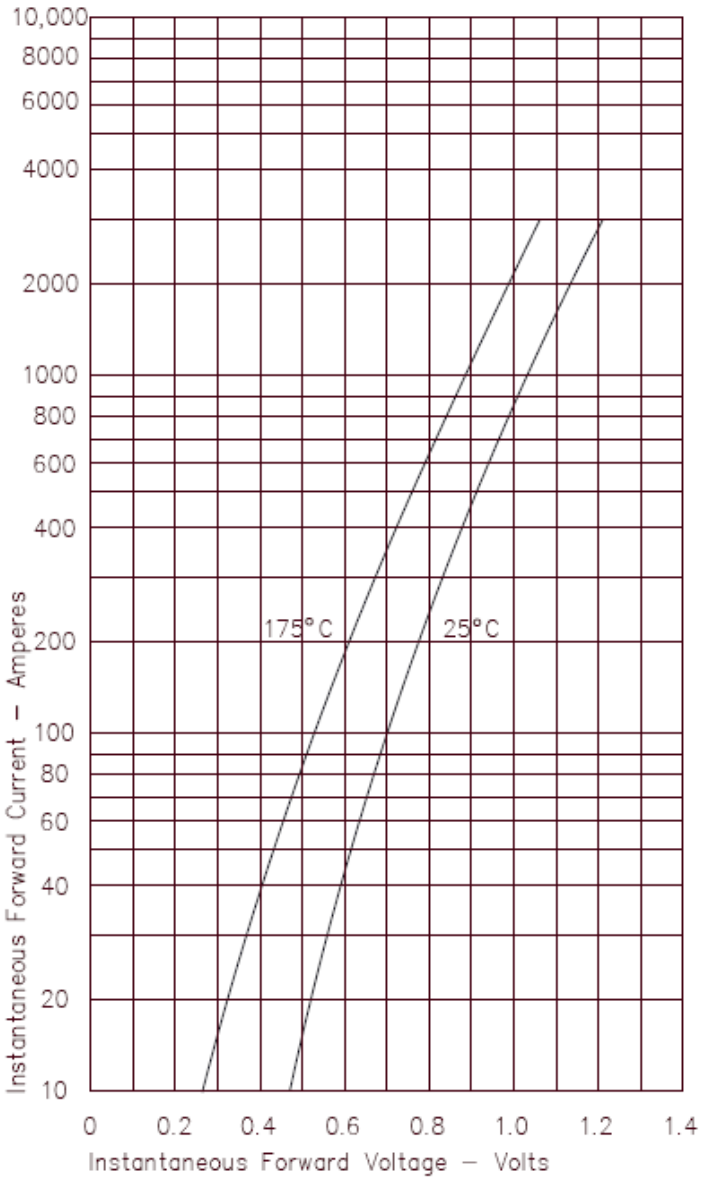


Figure 2
Typical Reverse Characteristics – Per Leg

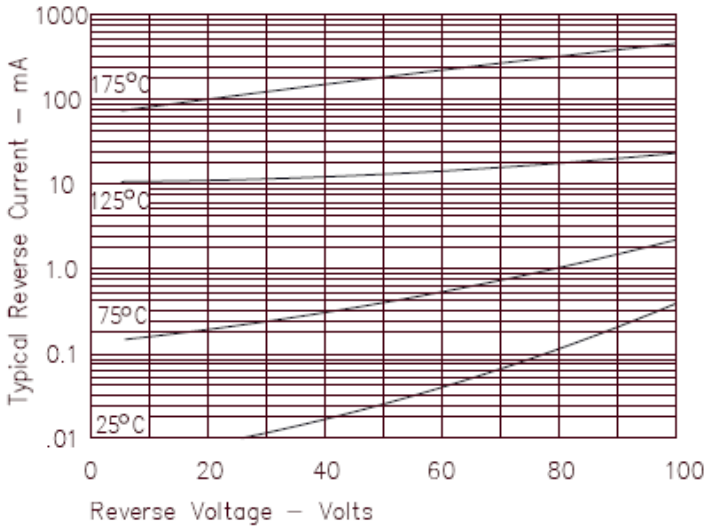
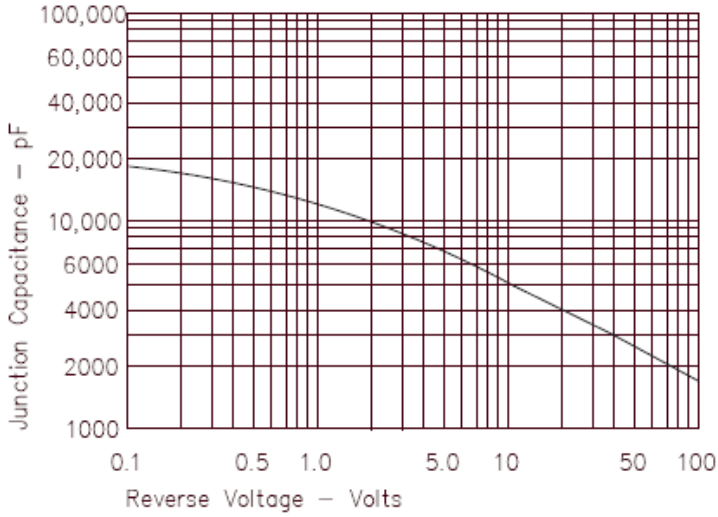


Figure 3
Typical Junction Capacitance – Per Leg



503CNQ… SERIES

Technical Data
Data Sheet N1445, Rev. -

Green Products

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