Technical Data
Data Sheet N1062, Rev. A

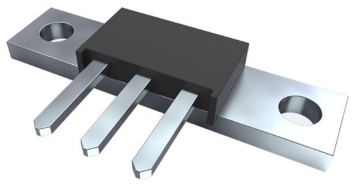
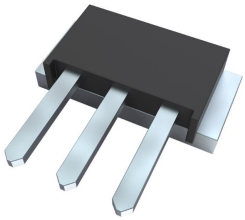
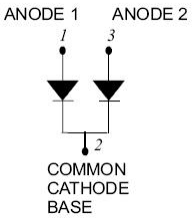
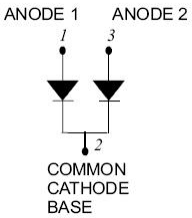
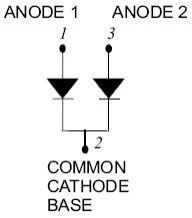
83CNQ080/83CNQ100 SCHOTTKY RECTIFIER

Applications

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features

- 175℃ T_J operation
- Center tap module
- Very Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Low profile, high current package
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional electrical and life testing can be performed upon request

83CNQ…	83CNQ…SL	83CNQ…SM
		
		
PRM2	**PRM2-SL**	**PRM2-SM**

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	80 (83CNQ080) 100(83CNQ100)	V
Average Rectified Forward Current	$I_{F\ (AV)}$	50% duty cycle @T_C =132°C, rectangular wave form	40(Per Leg) 80(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per leg)	I_{FSM}	8.3 ms, half Sine pulse	860	A
Non-Repetitive Avalanche Energy (Peg leg)	E_{AS}	T_J=25℃,I_{AS}=1A,L=30mH	15	mJ
Repetitive Avalanche Current(Peg leg)	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. V_A=1.5×V_R typical	8	A

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Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (Per leg) *	V_{F1}	@ 40A, Pulse, T_J = 25 °C @ 80A, Pulse, T_J = 25 °C	0.76 0.81	0.81 1.00	V
	V_{F2}	@ 40A, Pulse, T_J = 125 °C @ 80A, Pulse, T_J = 125 °C	0.60 0.69	0.67 0.82	V
Reverse Current (Per leg) *	I_{R1}	@V_R = rated VR T_J = 25 °C	0.0004	1.5	mA
	I_{R2}	@V_R = rated VR T_J = 125 °C	1.8	35	mA
Junction Capacitance (Per leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	1200	1400	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/µs

* Pulse width < 300 µs, duty cycle < 2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	°C
Storage Temperature	T_{stg}	-	-55 to +175	°C
Typical Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	0.85	°C/W
Typical Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	0.42	°C/W
Typical Thermal Resistance, case to Heat Sink	$R_{\theta cs}$	Mounting surface, smooth and greased	0.30	°C/W
Mounting Torque	TM	-	40(min) 58(max)	Kg-cm
Approximate Weight	wt	-	7.8	g
Case Style	PRM2 PRM2-SL PRM2-SM			

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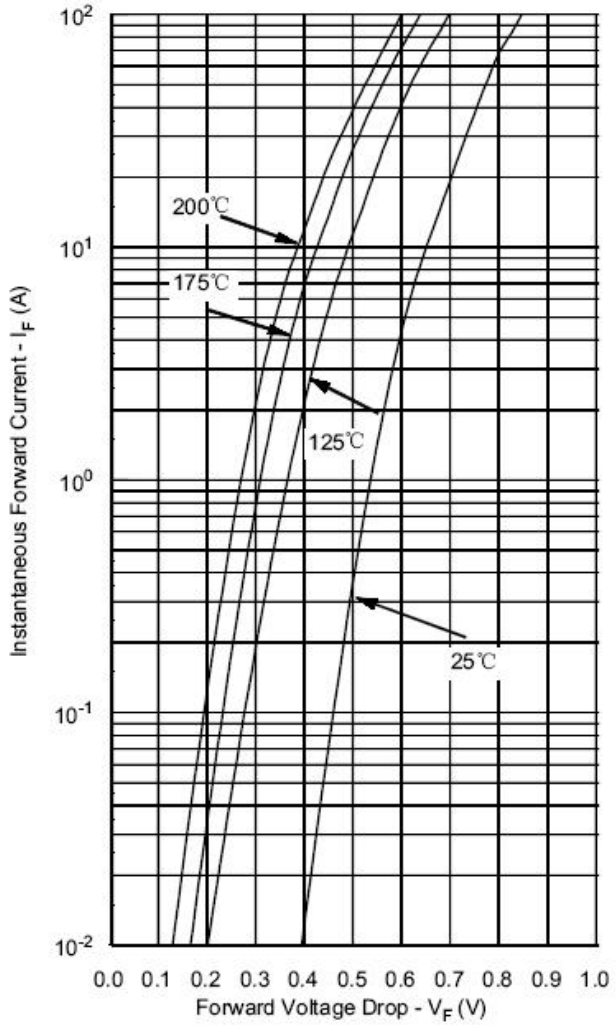
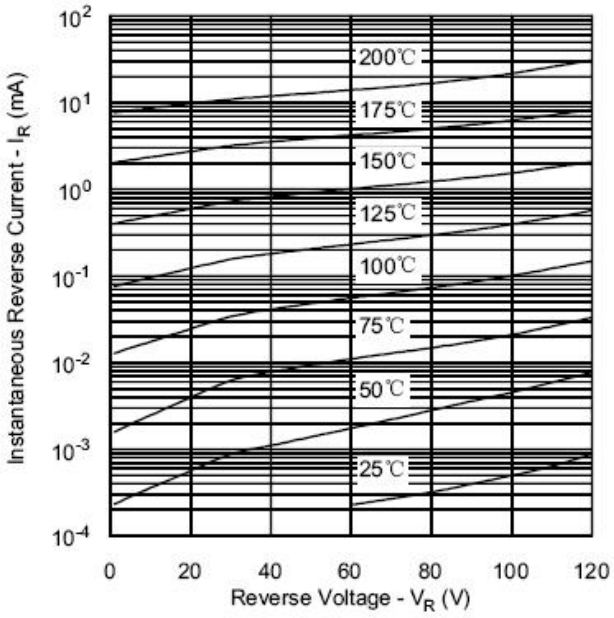
Ratings and Characteristics Curves

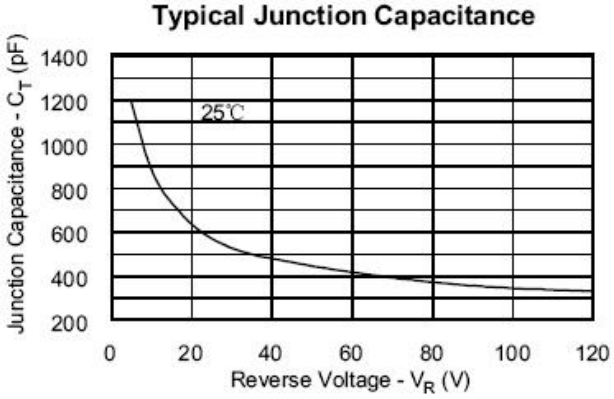
Typical Forward Characteristics



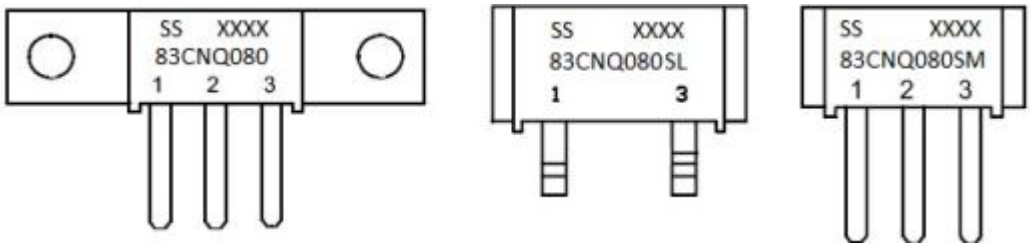
Typical Reverse Characteristics



Typical Junction Capacitance



Marking Diagram



Where XXXX is YYWW

1st row SS YYWWL
2nd row 83CNQ080/SL/SM
3rd row 1 2 3 (pin)
SS = SS
YY = Year
WW = Week

Cautions: Molding resin
Epoxy resin UL:94V-0

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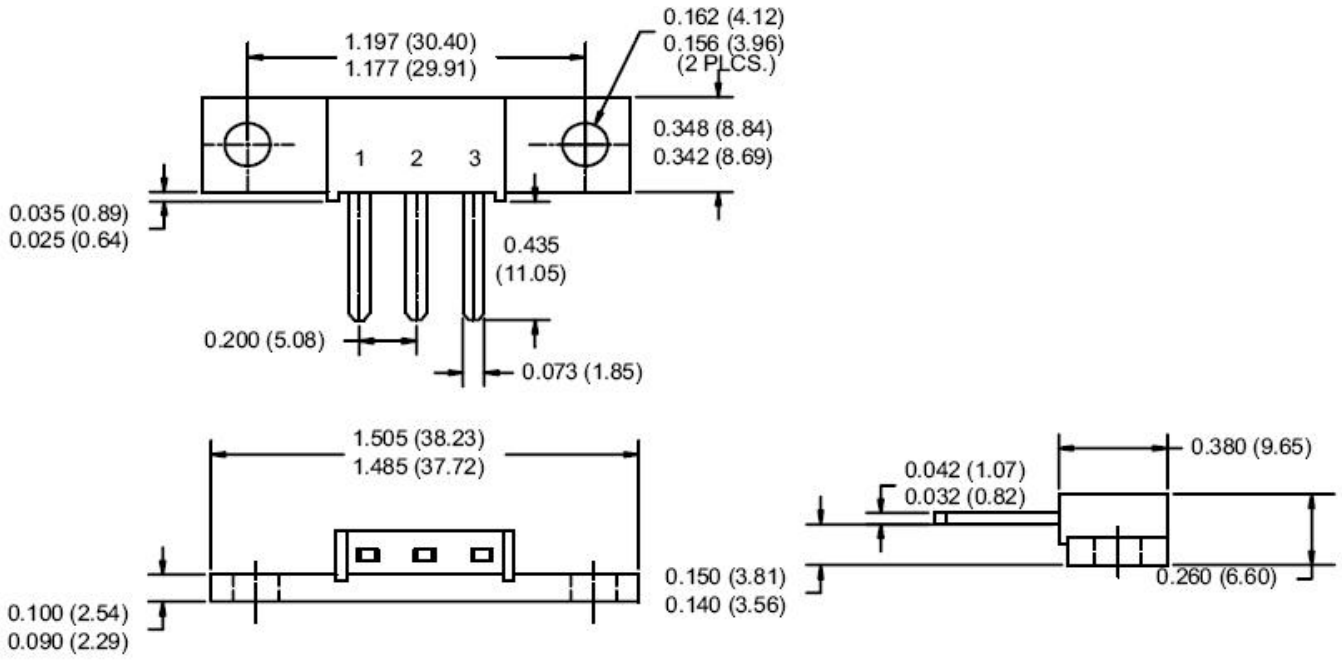
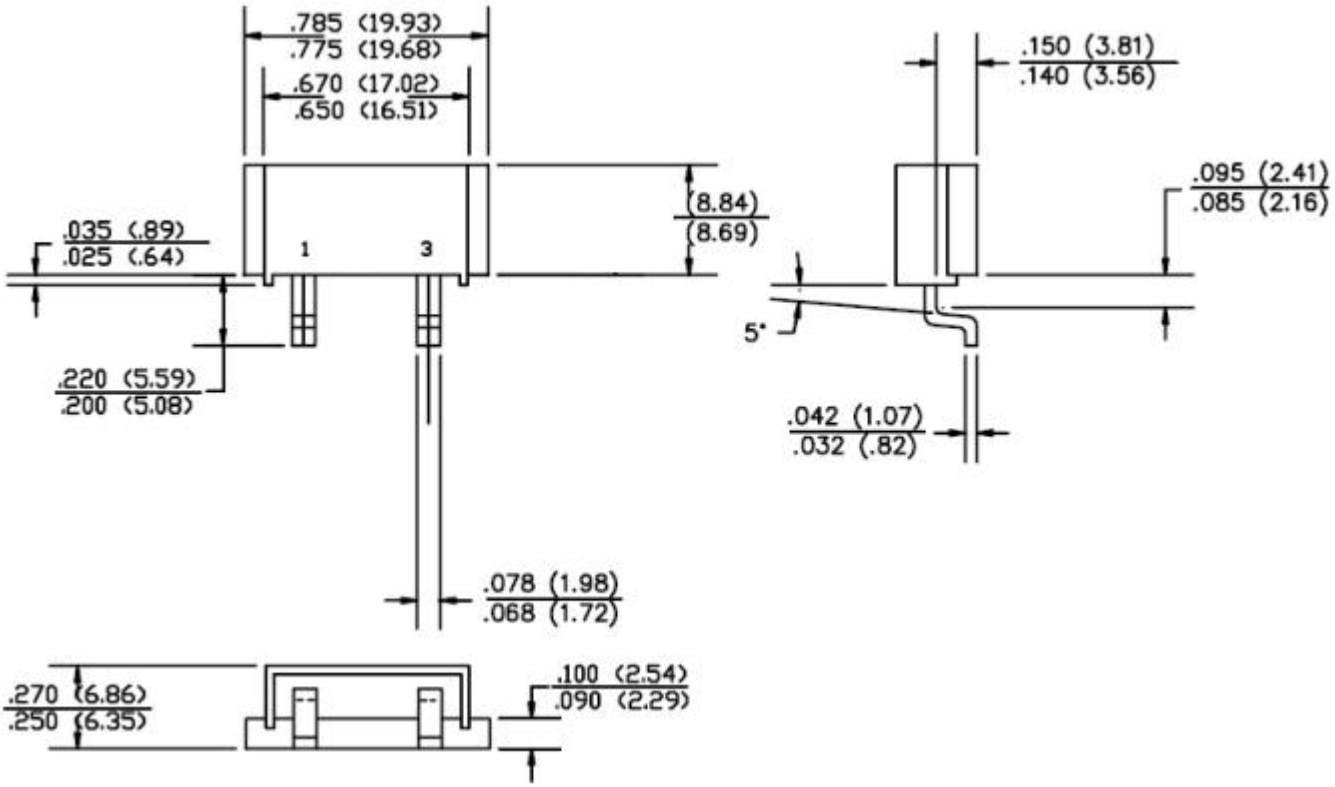
Ordering Information

Device	Package	Terminals finish	Shipping
83CNQ080	PRM2	Nickel plated	48pcs / box
83CNQ080S	PRM2	Pure Sn dipped (dipped height 6-8 mm)	48pcs / box
83CNQ080SL	PRM2-SL	Pure Sn plated	100pcs / box
83CNQ080SM	PRM2-SM	Nickel plated	48pcs / box
83CNQ080SMS	PRM2-SM	Pure Sn dipped (dipped height 6-8 mm)	48pcs / box
83CNQ100	PRM2	Nickel plated	48pcs / box
83CNQ100S	PRM2	Pure Sn dipped (dipped height 6-8 mm)	48pcs / box
83CNQ100SL	PRM2-SL	Pure Sn plated	100pcs / box
83CNQ100SM	PRM2-SM	Nickel plated	48pcs / box
83CNQ100SMS	PRM2-SM	Pure Sn dipped (dipped height 6-8 mm)	48pcs / box

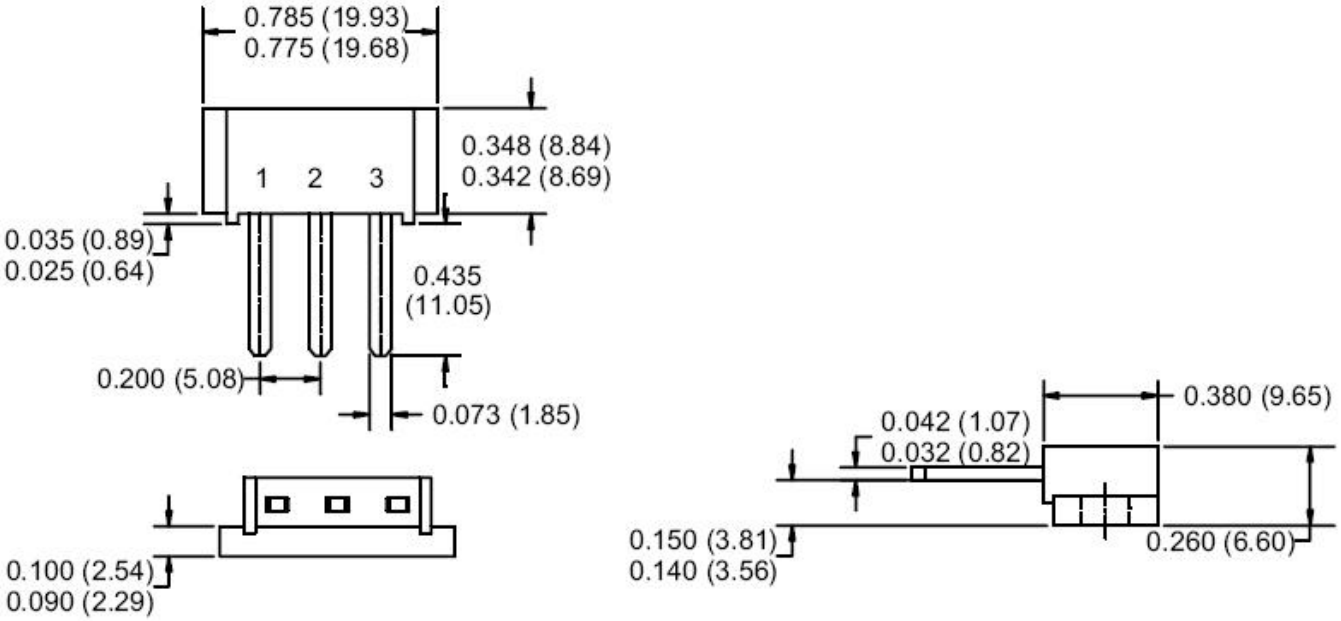
Mechanical Dimensions PRM2 (Inches/Millimeters)



Mechanical Dimensions PRM2-SL (Inches/Millimeters)



Mechanical Dimensions PRM2-SM (Inches/Millimeters)



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