

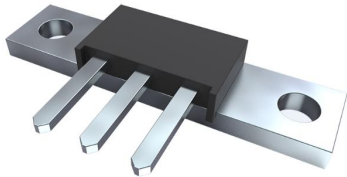

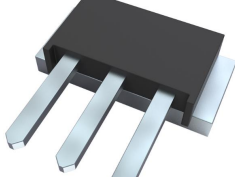
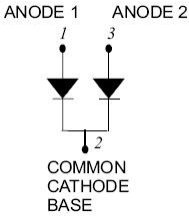
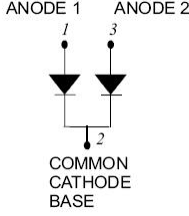
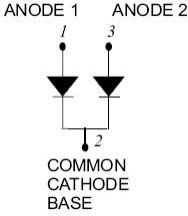
113CNQ100 SCHOTTKY RECTIFIER

Applications

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

Features

- 175°C 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

| 113CNQ100 | 113CNQ100SL | 113CNQ100SM |
|---|---|---|
|  |  |  |
|  |  |  |
| 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 | - | 100 | V |
| Average Rectified Forward Current | I _{F(AV)} | 50% duty cycle @T _C =95°C, rectangular wave form | 55(Per Leg) 110(Per Device) | A |
| Peak One Cycle Non-Repetitive Surge Current (per leg) | I _{FSM} | 10 ms, half Sine pulse | 720 | A |
| Non-Repetitive Avalanche Energy(peg leg) | E _{AS} | T _J =25°C, 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 | 1 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|----------------------------------|-----------------|---|--------|--------------|-------|
| Forward Voltage Drop (Per leg) * | V _{F1} | @ 55A, Pulse, T _J = 25 °C @110A, Pulse, T _J = 25 °C | - - | 0.81 1.00 | V |
| | V _{F2} | @ 55A, Pulse, T _J = 125 °C @ 110A, Pulse, T _J = 125 °C | - - | 0.66 0.79 | V |
| Reverse Current (Per leg) * | I _{R1} | @V _R = rated VR T _J = 25 °C | 0.01 | 1 | mA |
| | I _{R2} | @V _R = rated VR T _J = 125 °C | 1.8 | 32 | mA |
| Junction Capacitance (Per leg) | C _T | @V _R = 5V, T _C = 25 °C f _{sig} = 1MHz | 1180 | 1960 | pF |

* 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 _{θJC} | DC operation | 0.50 | °C/W |
| Typical Thermal Resistance Junction to Case (per package) | R _{θJC} | DC operation | 0.25 | °C/W |
| Typical Thermal Resistance, case to Heat Sink | R _{θcs} | Mounting surface, smooth and greased | 0.30 | °C/W |
| Mounting Torque | TM | - | 40(min) | Kg-cm |
| | | | 58(max) | |
| Approximate Weight | wt | - | 7.8 | g |
| Case Style | PRM2 PRM2-SL PRM2-SM | | | |

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

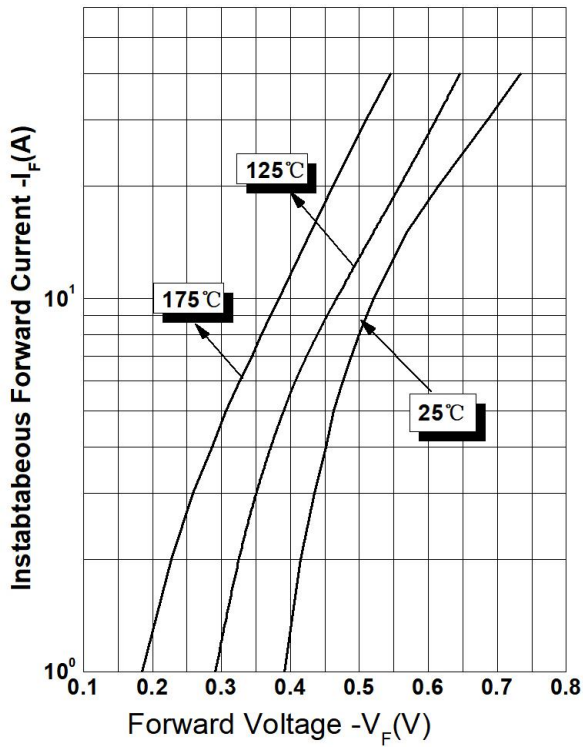


Figure 2
Typical Reverse Characteristics

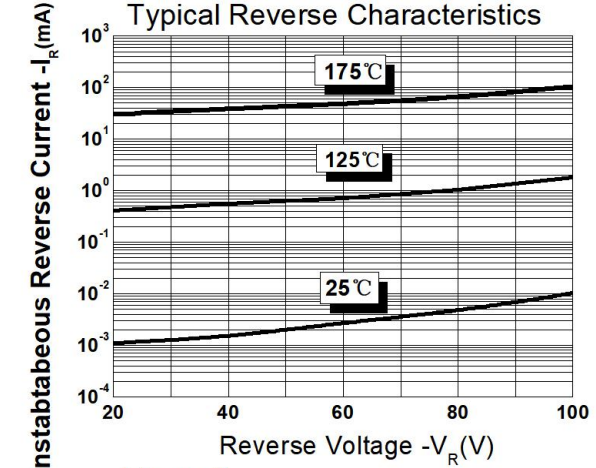
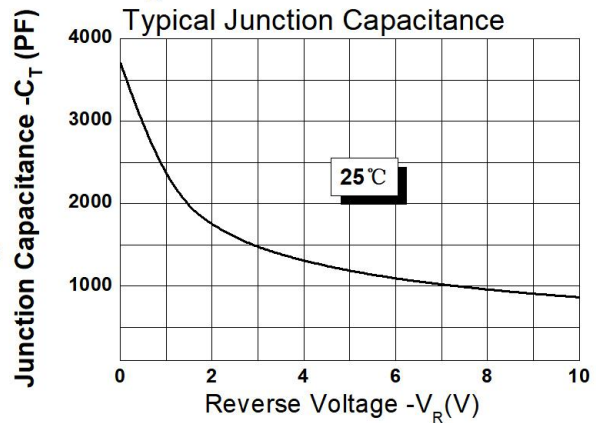
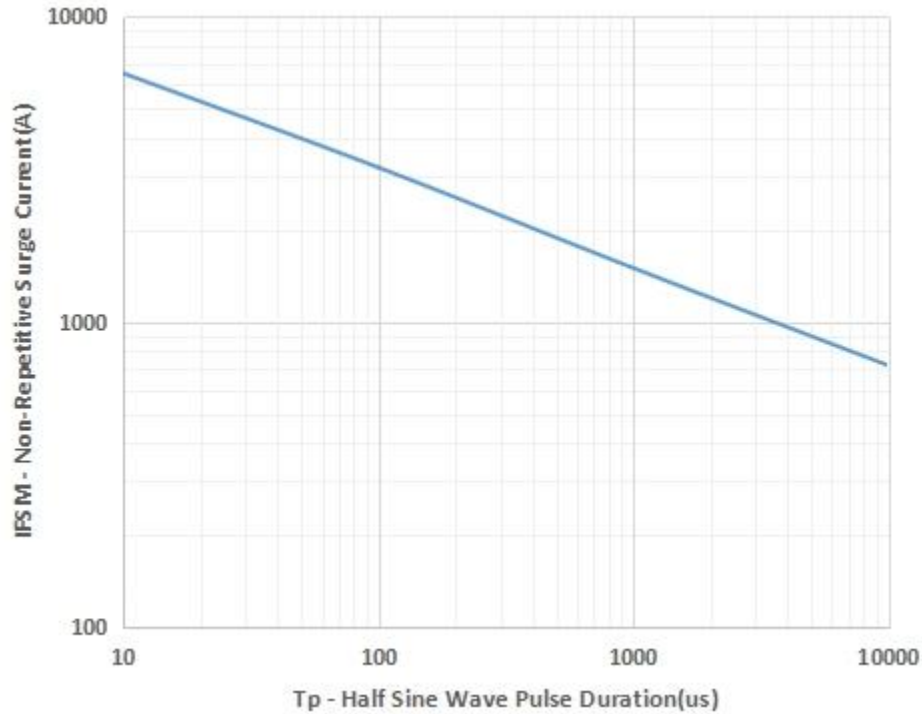
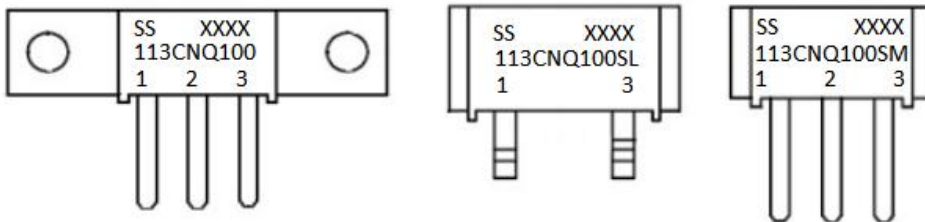


Figure 3
Typical Junction Capacitance





Marking Diagram



Where XXXX is YYWW

1st row SS YYWWL
2nd row 113CNQ100/SL/SM
3rd row 1 2 3 (pin)
SS = SS
YY = Year
WW = Week

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

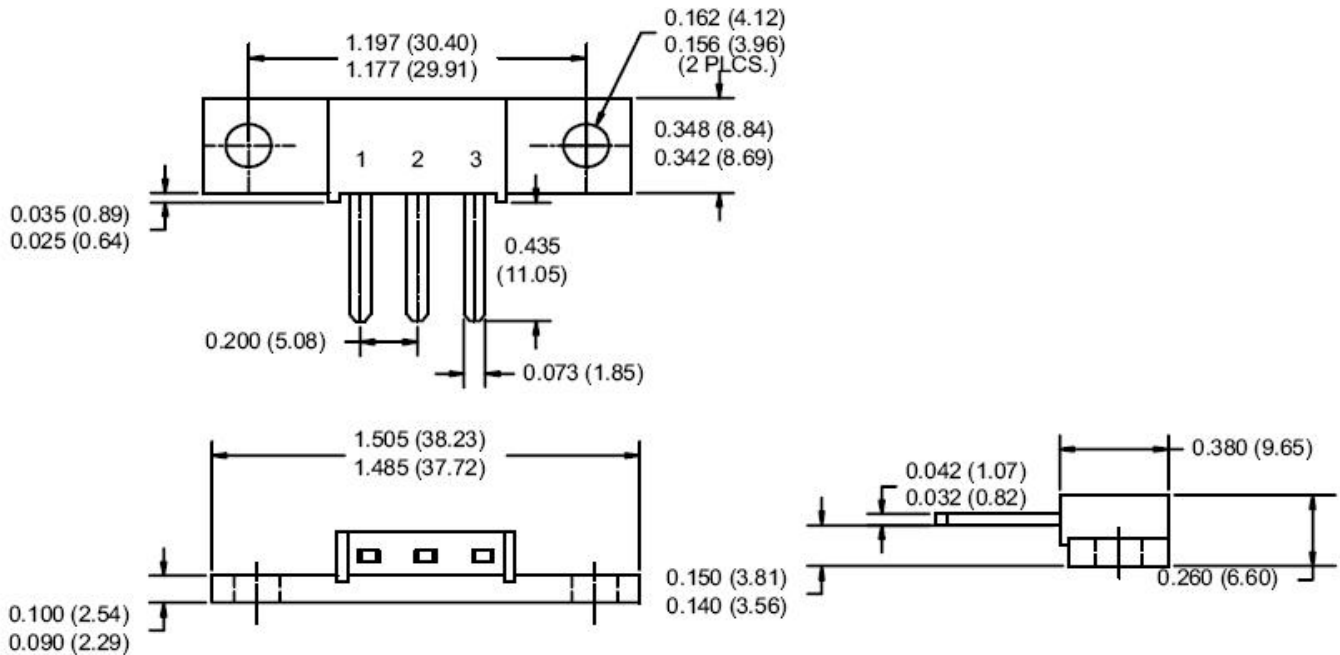
Ordering Information

| Device | Package | Terminals finish | Baseplate finish | Shipping |
|---------------|---------|--------------------------------------|------------------|--------------|
| 113CNQ100 | PRM2 | Nickel plated | Nickel plated | 48pcs / box |
| 113CNQ100S2 | PRM2 | Pure Sn dipped (dipped height 6-8mm) | Nickel plated | 48pcs / box |
| 113CNQ100SL | PRM2-SL | Pure Sn plated | Pure Sn plated | 100pcs / box |
| 113CNQ100SM | PRM2-SM | Nickel plated | Nickel plated | 48pcs / box |
| 113CNQ100SMS2 | PRM2-SM | Pure Sn dipped (dipped height 6-8mm) | Nickel plated | 48pcs / box |

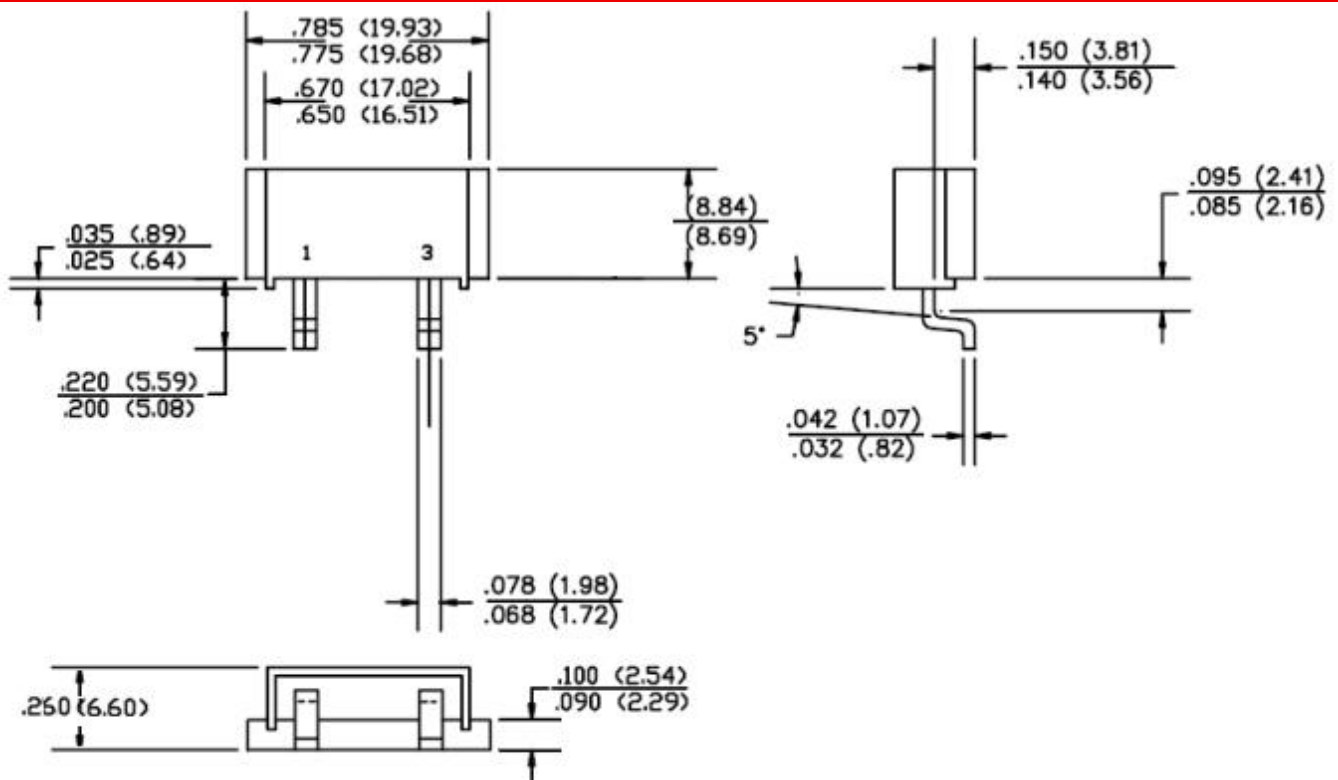
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - sales@smc-diodes.com •

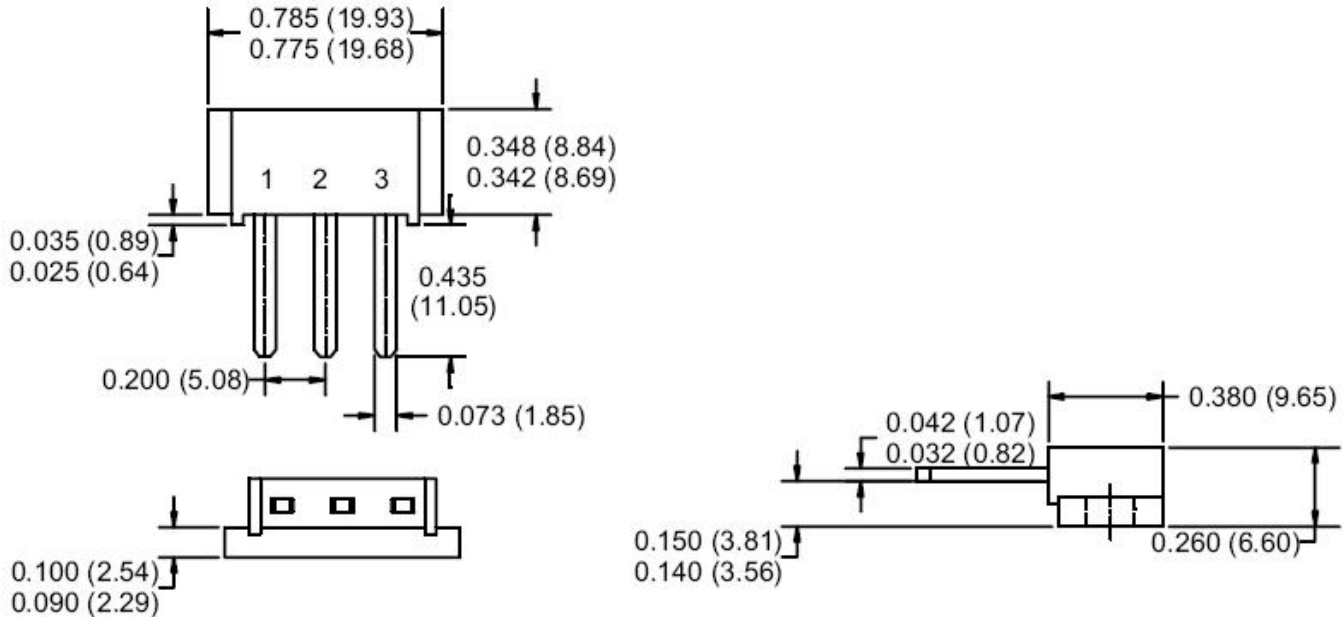
Mechanical Dimensions PRM2 (Inches/Millimeters)



Mechanical Dimensions PRM2-SL (Inches/Millimeters)



Mechanical Dimensions PRM2-SM (Inches/Millimeters)



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