

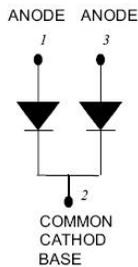
225CNQ015 SCHOTTKY RECTIFIER



Features

- 125°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
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Applications

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

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|--|---|---------------------------------|-------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _R | - | 15 | V |
| Average Rectified Forward Current | I _{F(AV)} | 50% duty cycle @T _C =74°C, rectangular wave form | 110(Per Leg) 220(Per Device) | A |
| Peak One Cycle Non-Repetitive Surge Current (Per Leg) | I _{FSM} | 8.3 ms, half Sine pulse | 2040 | A |
| Non-Repetitive Avalanche Energy(Peg Leg) | E _{AS} | T _J =25°C, I _{AS} =2A, L=4.5mH | 9 | 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 | 2 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|--------------------------------|-----------------|--|-----------|--------------|-------|
| Forward Voltage Drop(Per Leg)* | V _{F1} | @ 110A, Pulse, T _J = 25 °C @ 220A, Pulse, T _J = 25 °C | 0.35 - | 0.38 0.49 | V |
| | V _{F2} | @ 110A, Pulse, T _J = 125 °C @ 220A, Pulse, T _J = 125 °C | - | 0.32 0.42 | V |
| Reverse Current(Per Leg)* | I _{R1} | @V _R = rated V _R , T _J = 25 °C | 10 | 40 | mA |
| | I _{R2} | @V _R = rated V _R , T _J = 125 °C | - | 2000 | mA |
| | I _{R3} | @V _R = 12V, T _J = 100 °C | 800 | 1780 | mA |
| | I _{R4} | @V _R = 5V, T _J = 100 °C | 500 | 1080 | mA |
| Junction Capacitance(Per leg) | C _T | @V _R = 5V, T _C = 25 °C f _{SIG} = 1MHz | 6600 | 7700 | pF |
| Voltage Rate of Change | dv/dt | - | - | 10,000 | V/μs |

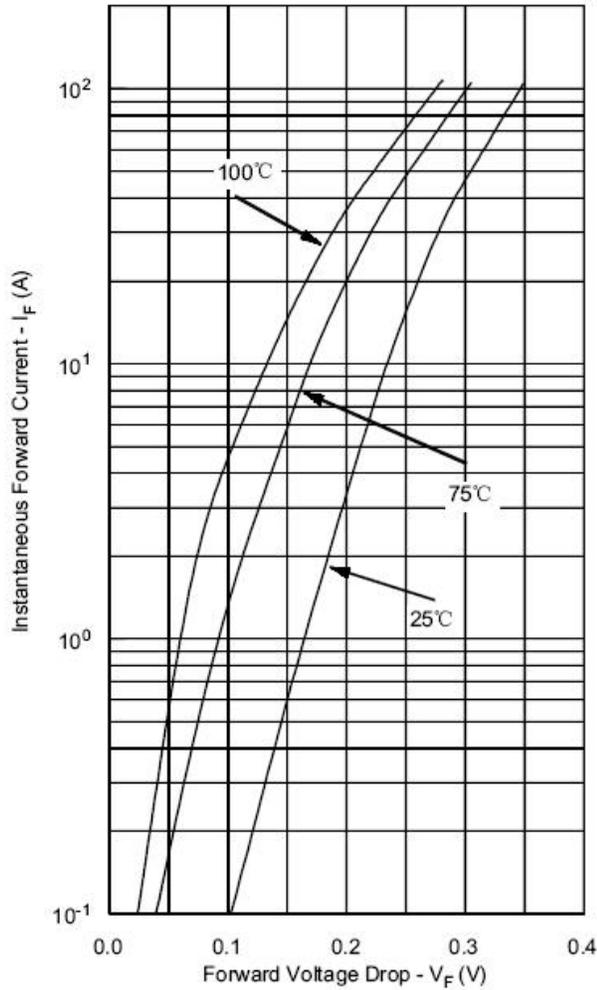
* Pulse width < 300 μs, duty cycle < 2%

Thermal-Mechanical Specifications:

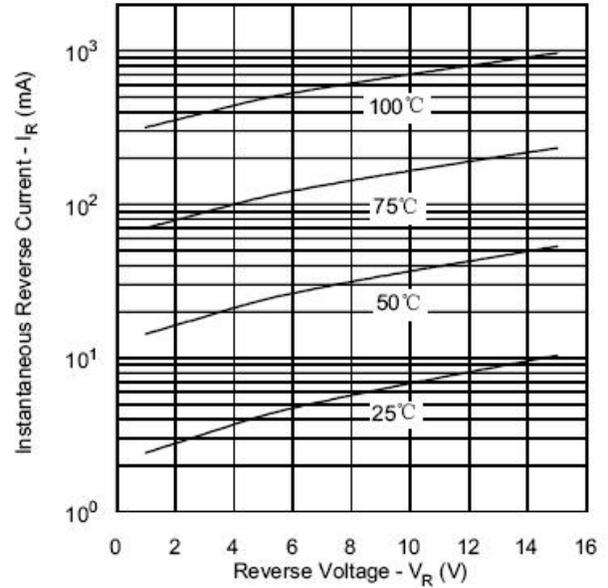
| Characteristics | Symbol | Condition | Specification | | Units |
|--|------------------|--------------------------------------|-----------------|--------------------|-------|
| Junction Temperature | T _J | - | -55 to +125 | | °C |
| Storage Temperature | T _{stg} | - | -55 to +125 | | °C |
| Typical 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 | 0.10 | | °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 |

Ratings and Characteristics Curves

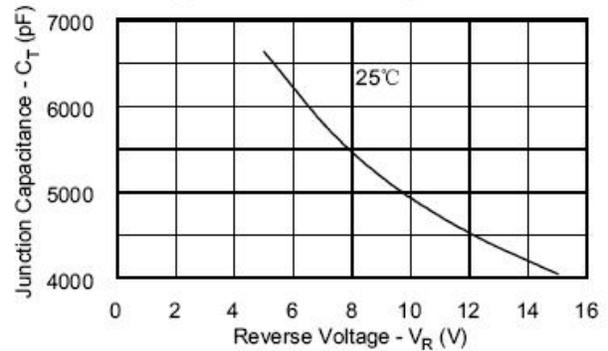
Typical Forward Characteristics



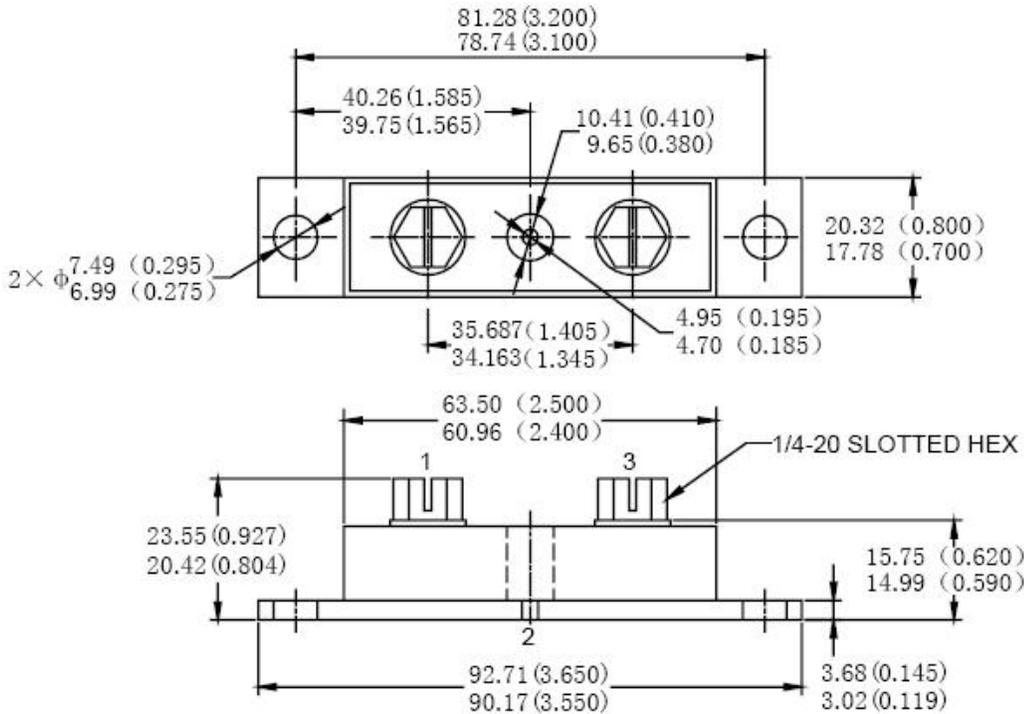
Typical Reverse Characteristics



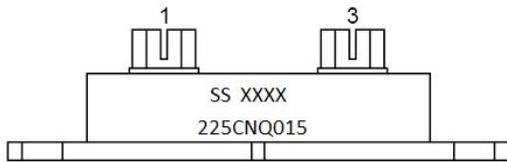
Typical Junction Capacitance



Mechanical Dimensions PRM4 Non-Isolated(Millimeters/Inches)



Marking Diagram



Where XXXX is YYWW

225CNQ015 = Part name
SS = SS
YY = Year
WW = Week

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

Ordering Information

| Device | Package | Shipping |
|-----------|----------------------------------|-----------|
| 225CNQ015 | PRM4(Non- Isolated) (Pb-Free) | 9 pcs/box |

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

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