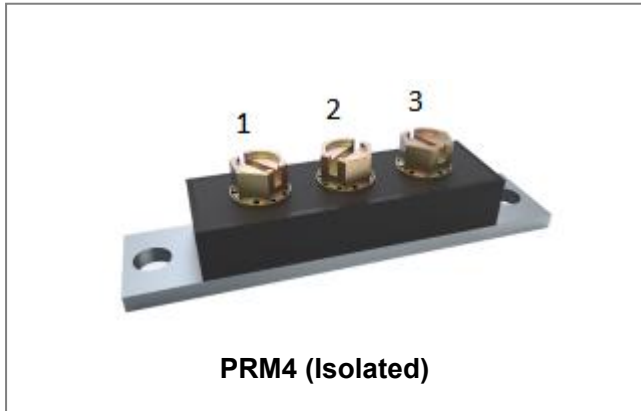


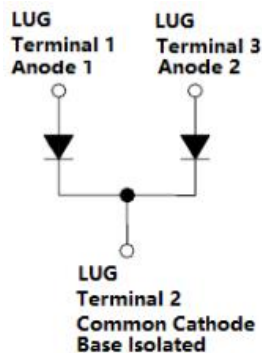
322CMQ030 SCHOTTKY RECTIFIER



Features

- 150°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
- Baseplate: Nickel plated; Terminals: Nickel plated
- 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 | V _{RRM} | - | 30 | V |
| Working Peak Reverse Voltage | V _{RWM} | | | |
| DC Blocking Voltage | V _R | | | |
| Average Rectified Forward Current | I _{F(AV)} | 50% duty cycle @T _C =100°C, rectangular wave form | 150(Per Leg) | A |
| | | | 300(Per Device) | |
| Peak One Cycle Non-Repetitive Surge Current (Per Leg) | I _{FSM} | 8.3 ms, half Sine pulse, T _J = 25 °C | 1800 | A |
| Non-Repetitive Avalanche Energy(Peg Leg) | E _{AS} | T _J =25°C, I _{AS} =1A, L=30mH | 270 | 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 | 60 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|--------------------------------|-----------------|--|--------------|--------------|-------|
| Forward Voltage Drop(Per Leg)* | V _{F1} | @ 150A, Pulse, T _J = 25 °C @ 300A, Pulse, T _J = 25 °C | 0.48 0.55 | 0.56 0.70 | V |
| | V _{F2} | @ 150A, Pulse, T _J = 125 °C @ 300A, Pulse, T _J = 125 °C | 0.39 0.46 | 0.49 0.68 | V |
| Reverse Current(Per Leg)* | I _{R1} | @V _R = rated V _R , T _J = 25 °C | 0.5 | 10 | mA |
| | I _{R2} | @V _R = rated V _R , T _J = 125 °C | 113 | 650 | mA |
| Junction Capacitance(Per leg) | C _T | @V _R = 5V, T _C = 25 °C f _{sig} = 1MHz | 8300 | 11000 | 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 +150 | °C | |
| Storage Temperature | T _{stg} | - | -55 to +150 | °C | |
| Typical Thermal Resistance Junction to Case(Per leg) | R _{θJC} | DC operation | 0.30 | °C/W | |
| Typical Thermal Resistance Junction to Case(Per package) | R _{θJC} | DC operation | 0.15 | °C/W | |
| Typical Thermal Resistance, case to Heat Sink | R _{θcs} | Mounting surface, smooth and greased | 0.05 | °C/W | |
| Mounting Torque | T _M | - | Mounting Torque | 24(min) 35(max) | Kg-cm |
| | | | Terminal Torque | 35(min) 46(max) | |
| Approximate Weight | wt | - | 110 | g | |
| Case Style | PRM4 Isolated | | | | |

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

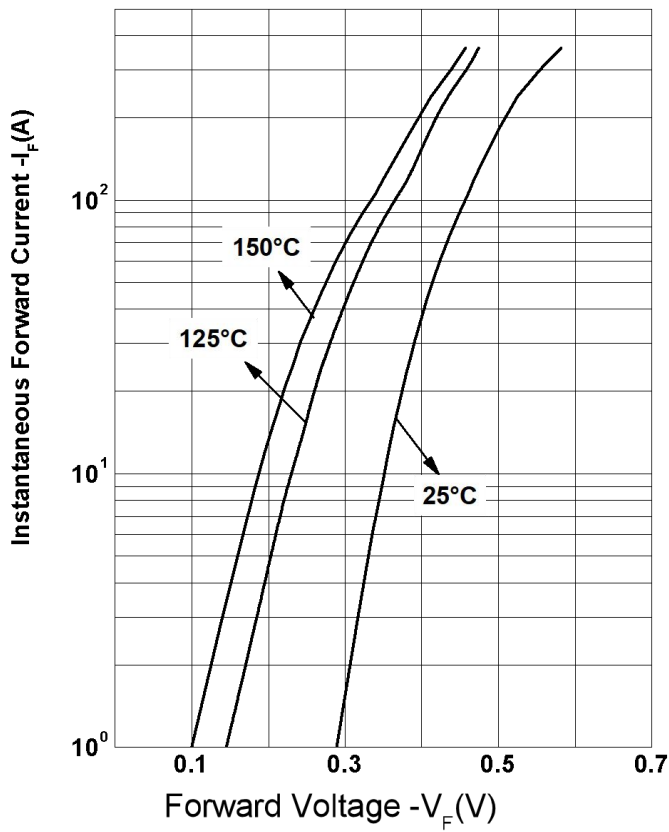


Figure 2
Typical Reverse Characteristics

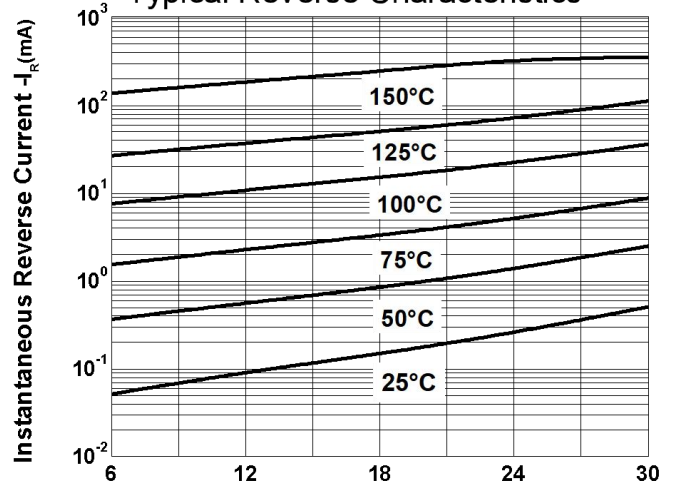
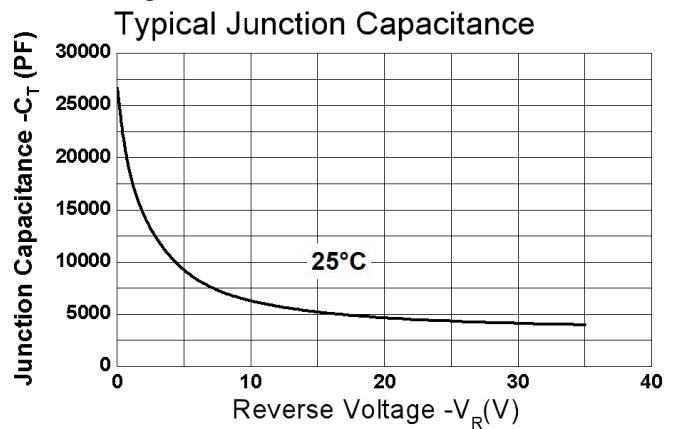
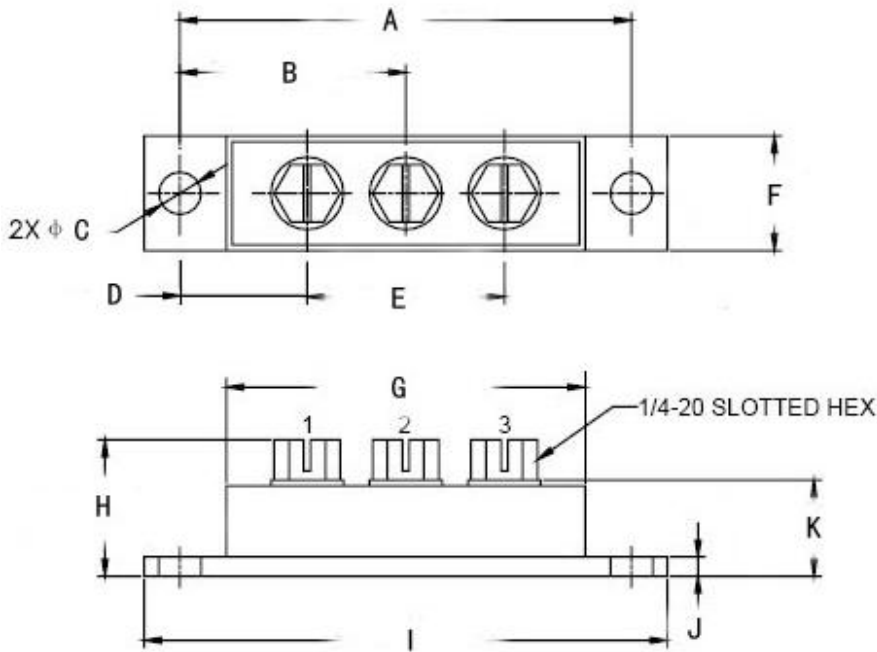


Figure 3
Typical Junction Capacitance

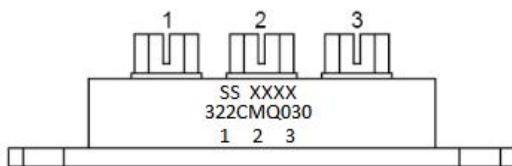


Mechanical Dimensions PRM4 Isolated (Millimeters/Inches)



| SYMBOL | Millimeters | | Inches | |
|--------|-------------|-------|--------|-------|
| | Min. | Max. | Min. | Max. |
| A | 78.74 | 81.28 | 3.100 | 3.200 |
| B | 37.47 | 42.55 | 1.475 | 1.675 |
| C | 6.89 | 7.69 | 0.271 | 0.303 |
| D | 19.51 | 24.59 | 0.768 | 0.968 |
| E | 33.02 | 38.10 | 1.300 | 1.500 |
| F | 17.78 | 20.32 | 0.700 | 0.800 |
| G | 60.96 | 64.77 | 2.400 | 2.550 |
| H | 17.56 | 23.55 | 0.691 | 0.927 |
| I | 90.17 | 92.71 | 3.550 | 3.650 |
| J | 3.02 | 3.68 | 0.119 | 0.145 |
| K | 15.75 | 17.50 | 0.620 | 0.689 |

Marking Diagram



Where XXXX is YYWW

322CMQ030 = Part name
SS = SS
YY = Year
WW = Week

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

Ordering Information

| Device | Package | Shipping |
|-----------|-------------------------|-----------|
| 322CMQ030 | PRM4 Isolated (Pb-Free) | 9 pcs/box |

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