**Technical Data**
**Data Sheet N1187, Rev. B**

*Green Products*

# 201CMQ035/201CMQ040/201CMQ045/201CMQ050
# SCHOTTKY RECTIFIER

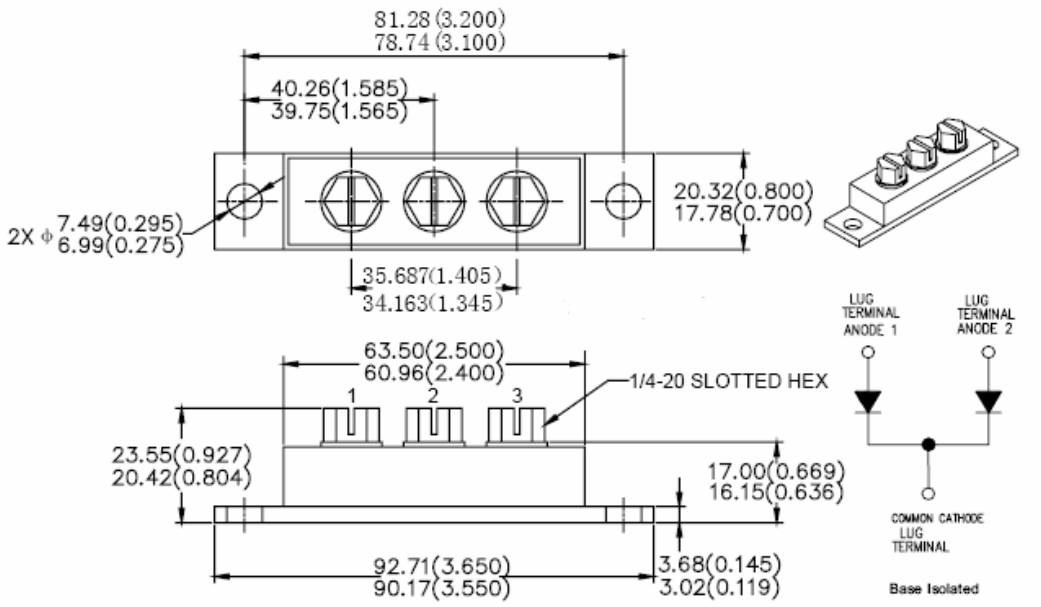
## Applications:

**● 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




Please Note: Anode 1 = Terminal 1; Anode 2 = Terminal 3; Common Cathode = Terminal 2
Suffix R Denotes for Reversed Polarity.

**PRM4 (Isolated)**

**MARKING,MOLDING RESIN**
Marking for 201CMQ035/040/045/050, 1st row SS YYWWL, 2nd row 201CMQ035/040/045/050
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

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## Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | | Units |
|---|---|---|---|---|---|
| Peak Inverse Voltage | $V_{RWM}$ | - | 35 | 201CMQ035 | V |
| | | | 40 | 201CMQ040 | |
| | | | 45 | 201CMQ045 | |
| | | | 50 | 201CMQ050 | |
| Max. Average Forward | $I_{F(AV)}$ | 50% duty cycle @$T_C$ =121°C, rectangular wave form | 100 | per leg | A |
| | | | 200 | per device | |
| Max. Peak One Cycle Non-Repetitive Surge Current (per leg) | $I_{FSM}$ | 8.3 ms, half Sine pulse | 3840 | | A |
| Non-Repetitive Avalanche Energy(peg leg) | $E_{AS}$ | $T_J$=25℃,$I_{AS}$=20A,L=0.67mH | 135 | | 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 | 20 | | A |

## Electrical Characteristics:

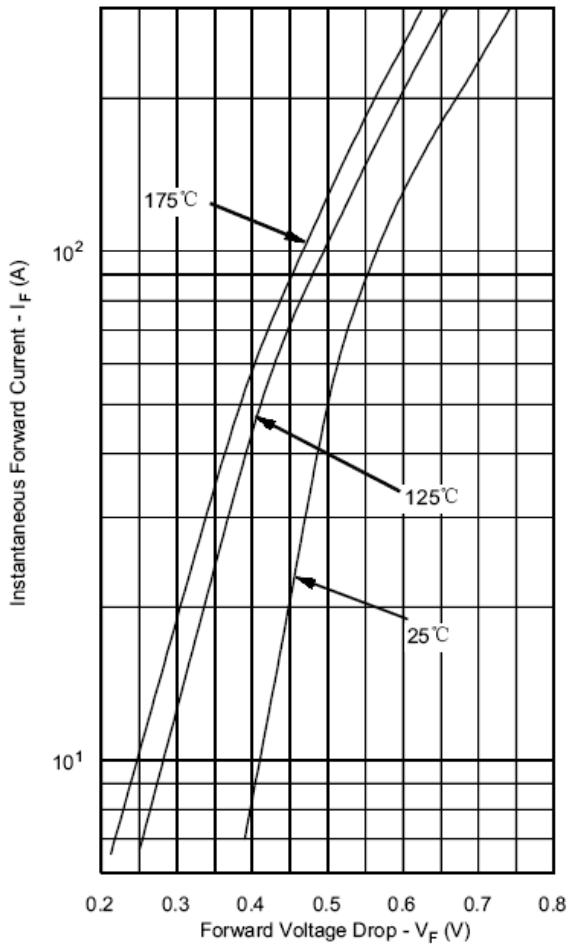
| Characteristics | Symbol | Condition | Max. | Units |
|---|---|---|---|---|
| Max. Forward Voltage Drop (per leg) * | $V_{F1}$ | @ 100A, Pulse, $T_J$ = 25 °C<br>@ 200A, Pulse, $T_J$ = 25 °C | 0.67<br>0.81 | V |
| | $V_{F2}$ | @ 100A, Pulse, $T_J$ = 125 °C<br>@ 200A, Pulse, $T_J$ = 125 °C | 0.58<br>0.71 | V |
| Max. Reverse Current (per leg) * | $I_{R1}$ | @$V_R$ = rated $V_R$ $T_J$ = 25 °C | 10 | mA |
| | $I_{R2}$ | @$V_R$ = rated $V_R$ $T_J$ = 125 °C | 90 | mA |
| Max. Junction Capacitance (per leg) | $C_T$ | @$V_R$ = 5V, $T_C$ = 25 °C<br>$f_{SIG}$ = 1MHz | 5200 | pF |
| Typical Series Inductance (per leg) | $L_S$ | Measured lead to lead 5 mm from package body | 7.0 | nH |
| Max. Voltage Rate of Change | dv/dt | - | 10,000 | V/μs |

* Pulse Width < 300μs, Duty Cycle <2%

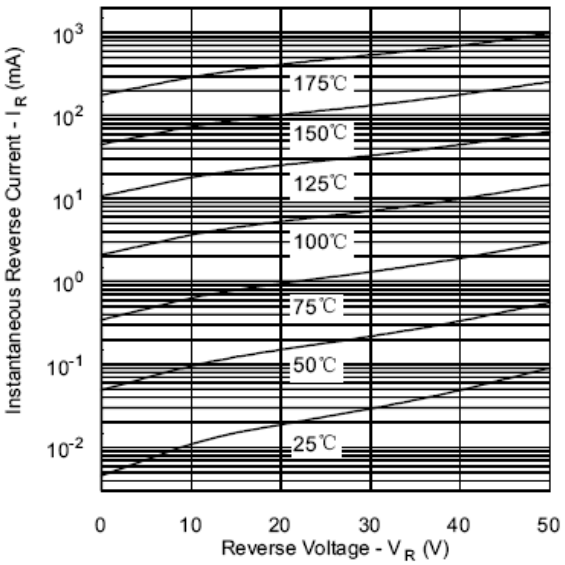
## Thermal-Mechanical Specifications:

| 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 | 0.70 | | °C/W |
| Maximum Thermal Resistance Junction to Case (per package) | $R_{\theta JC}$ | DC operation | 0.35 | | °C/W |
| Typical Thermal Resistance, case to Heat Sink | $R_{\theta cs}$ | Mounting surface, smooth and greased | 0.10 | | °C/W |
| Mounting Torque | $T_M$ | - | Mounting Torque | 24(min)<br>35(max) | Kg-cm |
| | | | Terminal Torque | 35(min)<br>46(max) | |
| Approximate Weight | wt | - | 79 | | g |
| Case Style | PRM4 Isolated | | | | |

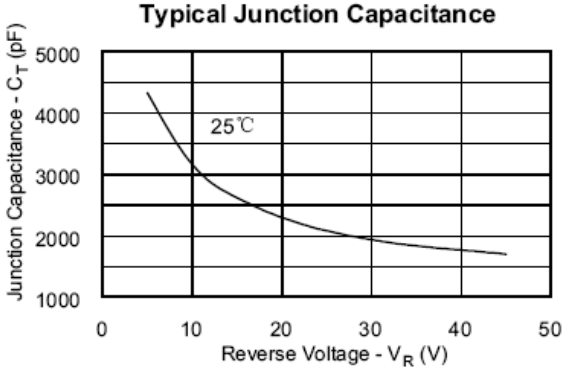
**Typical Forward Characteristics**




**Typical Reverse Characteristics**




**Typical Junction Capacitance**



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