

Technical Data
Data Sheet N1184, Rev. B

Green Products

200CMQ035/200CMQ040/200CMQ045 SCHOTTKY RECTIFIER

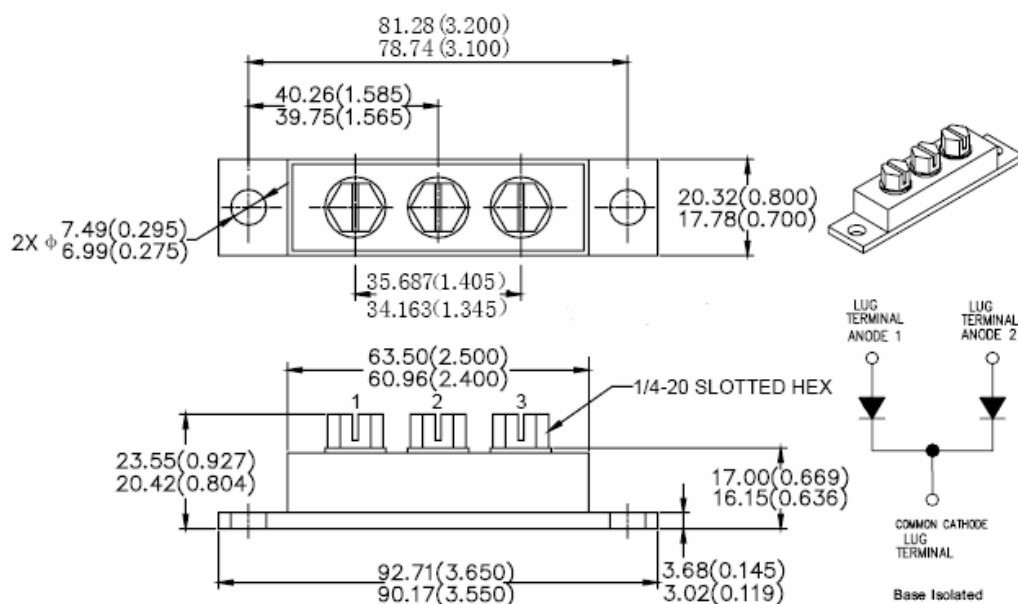
Applications:

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

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
- 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 200CMQ035/040/045, 1st row SS YYWWL, 2nd row 200CMQ035/040/045

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 | 200CMQ035 | V |
| | | | 40 | 200CMQ040 | |
| | | | 45 | 200CMQ045 | |
| Max. Average Forward | $I_{F(AV)}$ | 50% duty cycle @ $T_C=114^{\circ}C$, 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 | 1860 | | A |
| Non-Repetitive Avalanche Energy(per leg) | E_{AS} | $T_J=25^{\circ}C, I_{AS}=20A, L=0.67mH$ | 135 | | mJ |
| Repetitive Avalanche Current(per leg) | I_{AR} | Current decaying linearly to zero in 1 μ sec Frequency limited by T_J max. $V_A=1.5 \times V_R$ typical | 20 | | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|---------------------------------------|----------|---|--------|------------|
| Max. Forward Voltage Drop (per leg) * | V_{F1} | @ 100A, Pulse, $T_J = 25^{\circ}C$ | 0.54 | V |
| | | @ 200A, Pulse, $T_J = 25^{\circ}C$ | 0.68 | |
| Max. Reverse Current (per leg) * | V_{F2} | @ 100A, Pulse, $T_J = 125^{\circ}C$ | 0.49 | V |
| | | @ 200A, Pulse, $T_J = 125^{\circ}C$ | 0.64 | |
| Max. Reverse Current (per leg) * | I_{R1} | @ $V_R =$ rated V_R $T_J = 25^{\circ}C$ | 10 | mA |
| | I_{R2} | @ $V_R =$ rated V_R $T_J = 125^{\circ}C$ | 500 | mA |
| Max. Junction Capacitance (per leg) | C_T | @ $V_R = 5V, T_C = 25^{\circ}C$ $f_{SIG} = 1MHz$ | 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/ μ s |

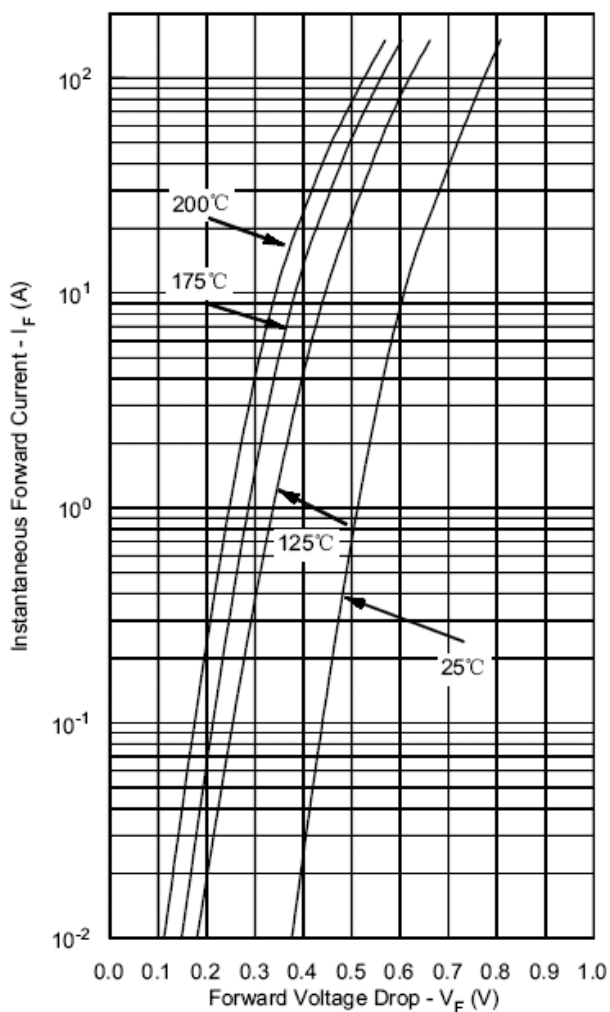
* Pulse Width < 300 μ s, Duty Cycle <2%

Thermal-Mechanical Specifications:

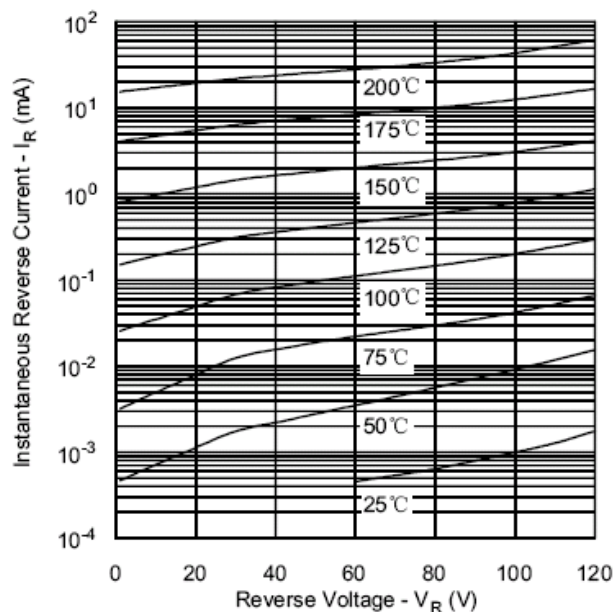
| Characteristics | Symbol | Condition | Specification | | Units |
|---|-----------------|--------------------------------------|-----------------|--------------------|---------------|
| Max. Junction Temperature | T_J | - | -55 to +150 | | $^{\circ}C$ |
| Max. Storage Temperature | T_{stg} | - | -55 to +150 | | $^{\circ}C$ |
| Maximum Thermal Resistance Junction to Case (per leg) | $R_{\theta JC}$ | DC operation | 0.70 | | $^{\circ}C/W$ |
| Maximum Thermal Resistance Junction to Case (per package) | $R_{\theta JC}$ | DC operation | 0.35 | | $^{\circ}C/W$ |
| Typical Thermal Resistance, case to Heat Sink | $R_{\theta cs}$ | Mounting surface, smooth and greased | 0.10 | | $^{\circ}C/W$ |
| Mounting Torque | T_M | - | Mounting Torque | 24(min) 35(max) | Kg-cm |
| | | | Terminal Torque | 35(min) 46(max) | |
| Approximate Weight | wt | - | 79 | | g |
| Case Style | PRM4 Isolated | | | | |

• Weiqi Street, Airport Development Zone, Jiangning District, Nanjing, China 211113 ☎ (86) 25-87123907 •
 • FAX (86) 25-87123900 • World Wide Web Site - <http://www.sangdest.com.cn> • E-Mail Address - sales@sangdest.com.cn •

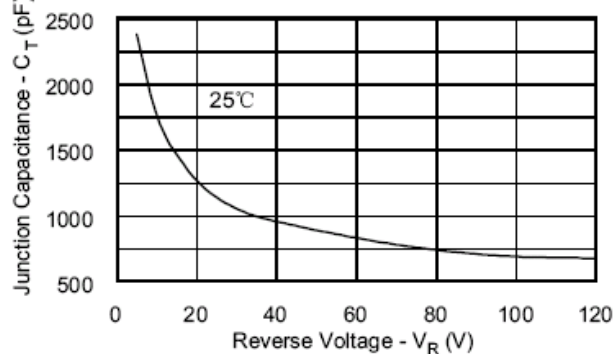
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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