

## 406DMQ200 SCHOTTKY RECTIFIER

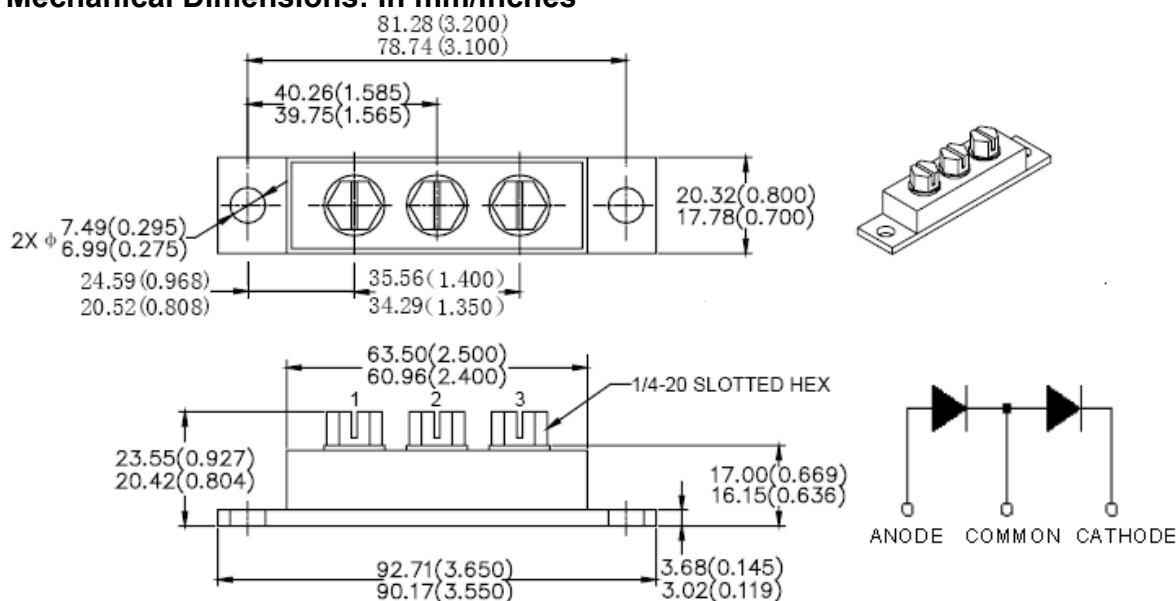
### Applications:

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

### Features:

- 175 °C T<sub>J</sub> 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: Suffix "R" Denotes For Reversed Polarity  
**PRM4 (Isolated)**

#### MARKING, MOLDING RESIN

Marking for 406DMQ200, 1<sup>st</sup> row SS YYWWL, 2<sup>nd</sup> row 406DMQ200

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

**Maximum Ratings:**

| Characteristics  | Symbol      | Condition  | Max. | Units      |   |
|--|-------------|--|------|------------|---|
| Peak Inverse Voltage                                       | $V_{RWM}$   | -  | 200  | V          |   |
| Max. Average Forward Current                               | $I_{F(AV)}$ | 50% duty cycle @ $T_C=121^\circ\text{C}$ , rectangular wave form | 200  | per leg    | A |
|  |             |  | 400  | per device |   |
| Max. Peak One Cycle Non-Repetitive Surge Current (per leg) | $I_{FSM}$   | 8.3 ms, half Sine pulse  | 3840 | A          |   |

**Electrical Characteristics:**

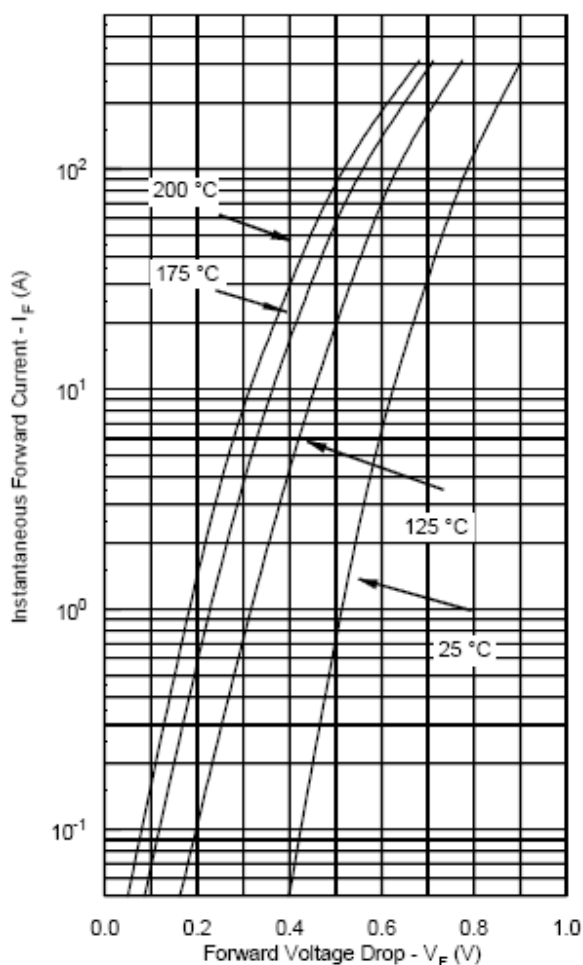
| Characteristics                       | Symbol    | Condition   | Max.   | Units            |
|---------------------------------------|-----------|---|--------|------------------|
| Max. Forward Voltage Drop (per leg) * | $V_{F1}$  | @ 200A, Pulse, $T_J = 25^\circ\text{C}$                                   | 0.99   | V                |
|                                       |           | @ 400A, Pulse, $T_J = 25^\circ\text{C}$                                   | 1.15   |                  |
| Max. Reverse Current (per leg) *      | $I_{R1}$  | @ $V_R = \text{rated } V_R$ , $T_J = 25^\circ\text{C}$                    | 10     | mA               |
|                                       |           | @ $V_R = \text{rated } V_R$ , $T_J = 125^\circ\text{C}$                   | 90     |                  |
| Max. Junction Capacitance (per leg)   | $C_T$     | @ $V_R = 5\text{V}$ , $T_C = 25^\circ\text{C}$<br>$f_{SIG} = 1\text{MHz}$ | 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/ $\mu\text{s}$ |
| Insulation Voltage                    | $V_{RMS}$ | -   | 1000   | V                |

\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle <2%

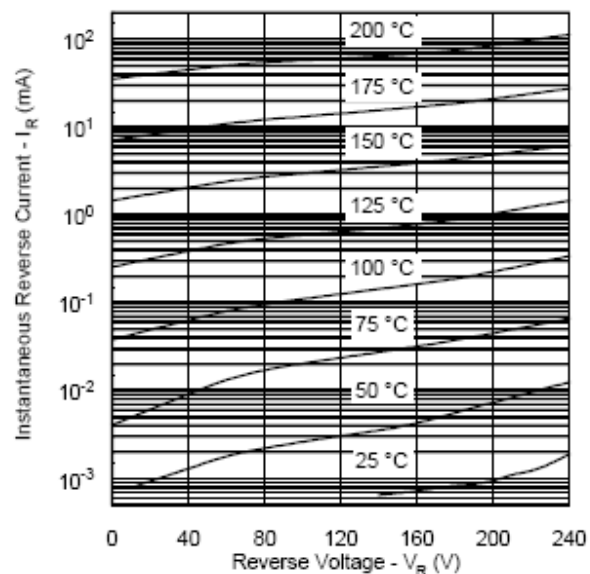
**Thermal-Mechanical Specifications:**

| Characteristics   | Symbol          | Condition                            | Specification   | Units              |       |
|---|-----------------|--------------------------------------|-----------------|--------------------|-------|
| Max. Junction Temperature                                 | $T_J$           | -                                    | -55 to +175     | $^\circ\text{C}$   |       |
| Max. Storage Temperature                                  | $T_{stg}$       | -                                    | -55 to +175     | $^\circ\text{C}$   |       |
| Maximum Thermal Resistance Junction to Case (per leg)     | $R_{\theta JC}$ | DC operation                         | 0.40            | $^\circ\text{C/W}$ |       |
| Maximum Thermal Resistance Junction to Case (per package) | $R_{\theta JC}$ | DC operation                         | 0.20            | $^\circ\text{C/W}$ |       |
| Typical Thermal Resistance, case to Heat Sink             | $R_{\theta cs}$ | Mounting surface, smooth and greased | 0.10            | $^\circ\text{C/W}$ |       |
| 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   |                                      |                 |                    |       |

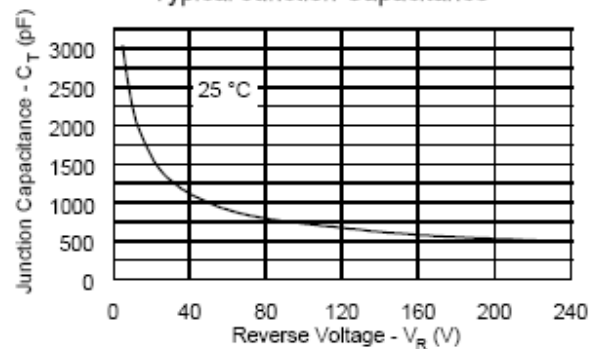
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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