

Technical Data  
Data Sheet N1182, Rev. -

*Green Products*

## 159CMQ135/159CMQ150 SCHOTTKY RECTIFIER

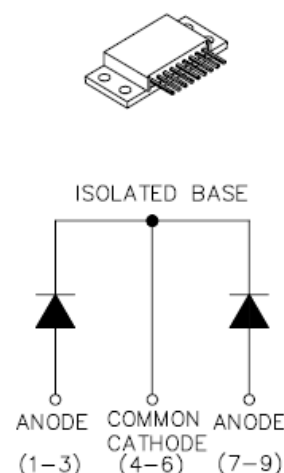
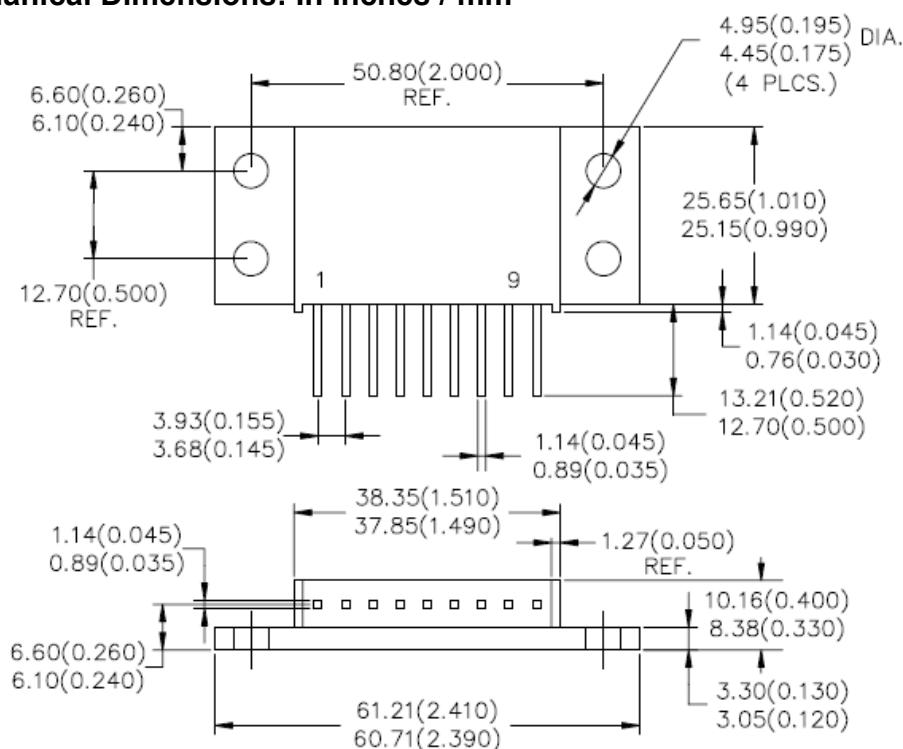
### Applications:

- Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection

### Features:

- 175 °C T<sub>J</sub> operation
- Isolated heatsink
- Multiple leads per terminal for high frequency, high current PC board mounting
- Low profile, high current package
- Center tap module
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- 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 Inches / mm



### TO-249(9 pin)

#### MARKING, MOLDING RESIN

Marking for 159CMQ135/150, 1<sup>st</sup> row SS YYWWL, 2<sup>nd</sup> row 159CMQ135/150, 3<sup>rd</sup> row 1 2 3 (Pin)

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 <sub>RWM</sub>   | -                                                            | 135  | 159CMQ135 | V     |
|                                                            |                    |                                                              | 150  | 159CMQ150 |       |
| Max. Average Forward*                                      | I <sub>F(AV)</sub> | 50% duty cycle @T <sub>C</sub> = 90°C, rectangular wave form | 150  |           | A     |
| Max. Peak One Cycle Non-Repetitive Surge Current (per leg) | I <sub>FSM</sub>   | 8.3 ms, half Sine pulse                                      | 864  |           | A     |

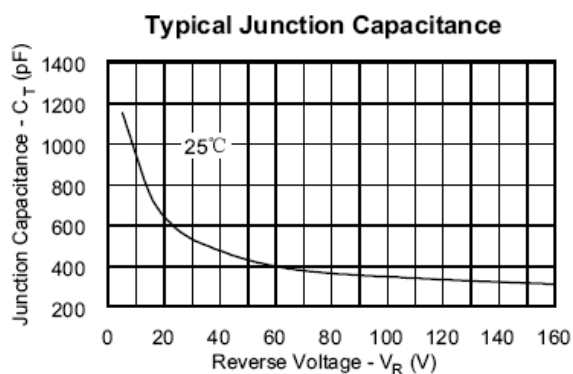
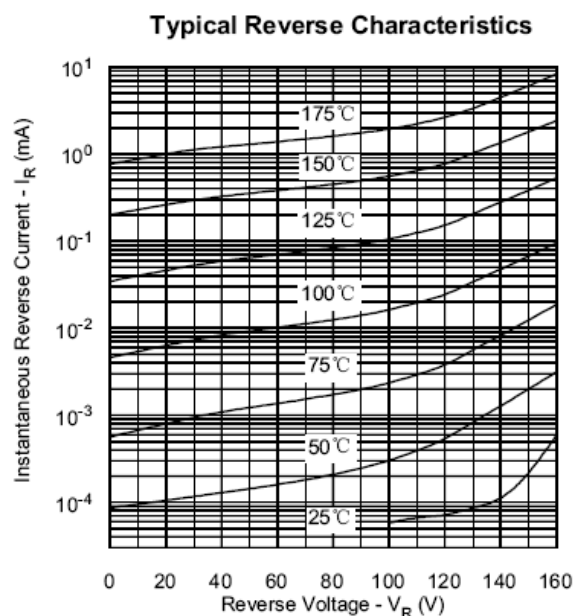
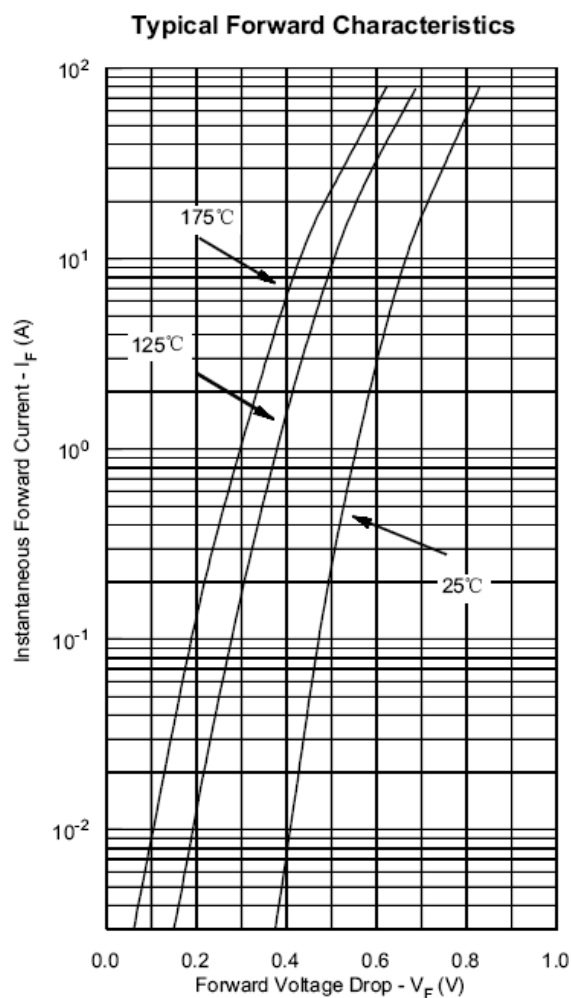
**Electrical Characteristics:**

| Characteristics                       | Symbol   | Condition                                                                 | Max. | Units |
|---------------------------------------|----------|---------------------------------------------------------------------------|------|-------|
| Max. Forward Voltage Drop (per leg) * | $V_{F1}$ | @ 80A, Pulse, $T_J = 25^\circ\text{C}$                                    | 1.05 | V     |
|                                       | $V_{F2}$ | @ 80A, Pulse, $T_J = 125^\circ\text{C}$                                   | 0.85 | V     |
| Max. Reverse Current (per leg) *      | $I_{R1}$ | @ $V_R = \text{rated } V_R$ , $T_J = 25^\circ\text{C}$                    | 1.5  | mA    |
|                                       | $I_{R2}$ | @ $V_R = \text{rated } V_R$ , $T_J = 125^\circ\text{C}$                   | 21   | mA    |
| Max. Junction Capacitance (per leg)   | $C_T$    | @ $V_R = 5\text{V}$ , $T_C = 25^\circ\text{C}$<br>$f_{SIG} = 1\text{MHz}$ | 1300 | pF    |

\* 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                         | 1.0           | $^\circ\text{C/W}$ |
| Maximum Thermal Resistance Junction to Case (per package) | $R_{\theta JC}$ | DC operation                         | 0.50          | $^\circ\text{C/W}$ |
| Typical Thermal Resistance, case to Heat Sink             | $R_{\theta CS}$ | Mounting surface, smooth and greased | 0.10          | $^\circ\text{C/W}$ |
| Mounting Torque                                           | $T_M$           | -                                    | 40(min)       | Kg-cm              |
|                                                           |                 |                                      | 58(max)       |                    |
| Approximate Weight                                        | wt              | -                                    | 56            | g                  |
| Case Style                                                | TO-249(9 pin)   |                                      |               |                    |



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