



**TECHNICAL DATA  
DATA SHEET**

**150CMQ...SERIES SCHOTTKY RECTIFIER**

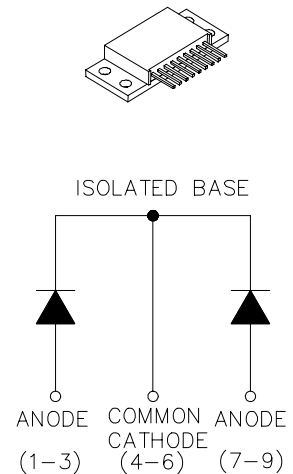
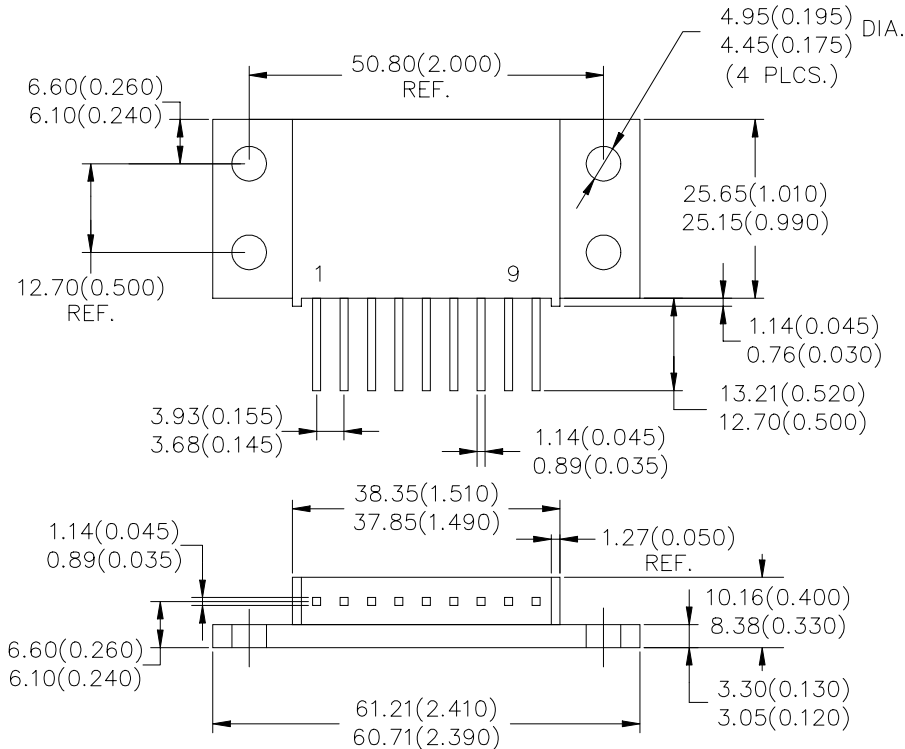
**Applications:**

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

**Features:**

- 150 °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
- 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

**Mechanical Dimensions: In Inches / mm**



**TO-249(9 Pin)**

**Maximum Ratings:**

| Characteristics  | Symbol      | Condition   | Max. |           | Units |
|--|-------------|---|------|-----------|-------|
| Peak Inverse Voltage                                       | $V_{RWM}$   | -   | 35   | 150CMQ035 | V     |
|  |             |   | 40   | 150CMQ040 |       |
|  |             |   | 45   | 150CMQ045 |       |
| Max. Average Forward Current                               | $I_{F(AV)}$ | 50% duty cycle @ $T_C = 71^\circ\text{C}$ , rectangular wave form   | 150  |           | A     |
| Max. Peak One Cycle Non-Repetitive Surge Current (per leg) | $I_{FSM}$   | 8.3 ms, half Sine pulse   | 960  |           | A     |
| Non-Repetitive Avalanche Energy (per leg)                  | $E_{AS}$    | $T_J = 25^\circ\text{C}$ , $I_{AS} = 15\text{ A}$ , $L = 0.9\text{ mH}$   | 101  |           | mJ    |
| Repetitive Avalanche Current (per leg)                     | $I_{AR}$    | Current decaying linearly to zero in 1 $\mu\text{sec}$ Frequency limited by $T_J$ max. $V_A = 1.5 \times V_R$ typical | 15   |           | A     |

**Electrical Characteristics:**

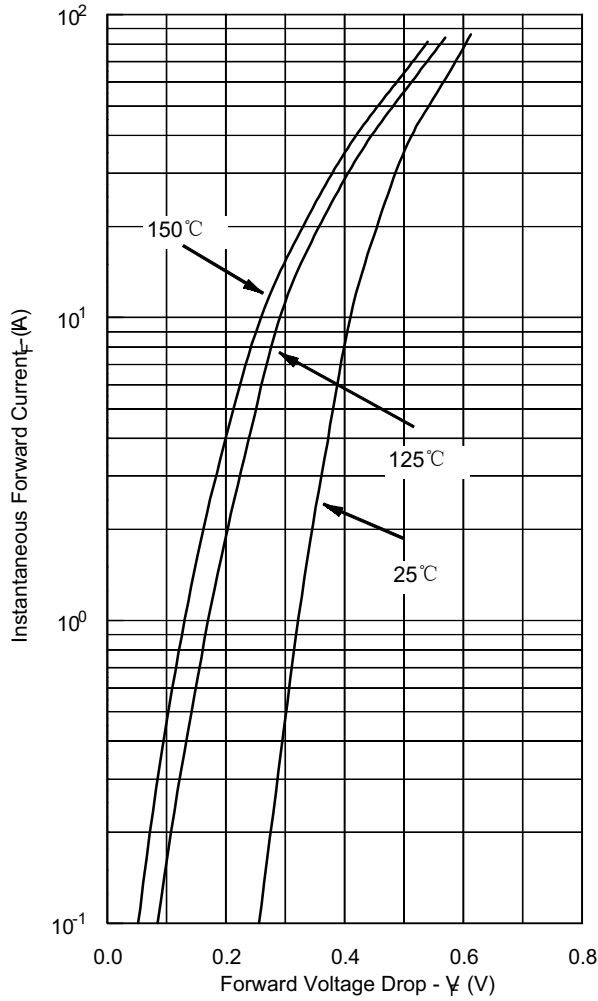
| Characteristics                      | Symbol   | Condition   | Max.   | Units            |
|--------------------------------------|----------|---|--|------------------|
| Max. Forward Voltage Drop (per leg)* | $V_{F1}$ | @ 75A, Pulse, $T_J = 25^\circ\text{C}$                                    | 0.64   | V                |
|                                      |          | @ 150 A, Pulse, $T_J = 25^\circ\text{C}$                                  | 0.87   |                  |
|                                      | $V_{F2}$ | @ 75 A, Pulse, $T_J = 125^\circ\text{C}$                                  | 0.60   | V                |
|                                      |          | @ 150 A, Pulse, $T_J = 125^\circ\text{C}$                                 | 0.79   |                  |
| Max. Reverse Current (per leg)*      | $I_{R1}$ | @ $V_R = \text{rated } V_R$<br>$T_J = 25^\circ\text{C}$                   | 5  | mA               |
|                                      |          | $I_{R2}$  | @ $V_R = \text{rated } V_R$<br>$T_J = 125^\circ\text{C}$ |                  |
| Max. Junction Capacitance (per leg)  | $C_T$    | @ $V_R = 5\text{V}$ , $T_C = 25^\circ\text{C}$<br>$f_{SIG} = 1\text{MHz}$ | 2600   | pF               |
| Typical Series Inductance (per leg)  | $L_S$    | Measured lead to lead 5 mm from package body                              | 9.2  | nH               |
| Max. Voltage Rate of Change          | dv/dt    | -   | 10,000   | V/ $\mu\text{s}$ |

\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle <2%**Thermal-Mechanical Specifications:**

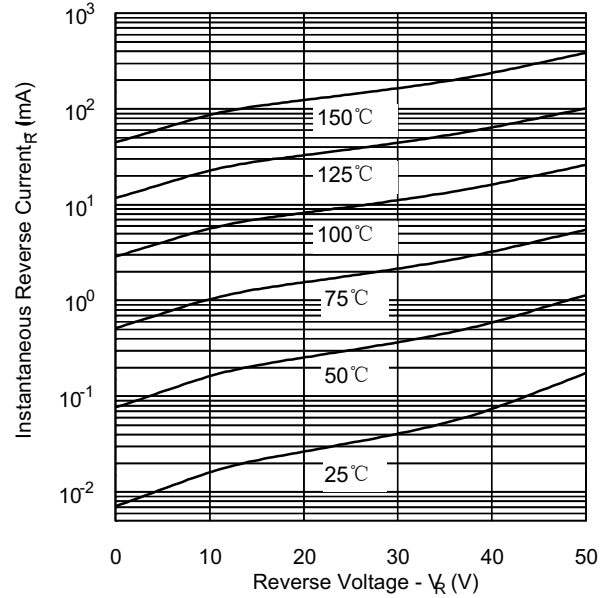
| Characteristics   | Symbol          | Condition                            | Specification        | Units              |
|---|-----------------|--------------------------------------|----------------------|--------------------|
| Max. Junction Temperature                                 | $T_J$           | -                                    | -55 to +150          | $^\circ\text{C}$   |
| Max. Storage Temperature                                  | $T_{stg}$       | -                                    | -55 to +150          | $^\circ\text{C}$   |
| 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                 | $^\circ\text{C/W}$ |
| Maximum Thermal Resistance, Case to Heat Sink             | $R_{\theta CS}$ | Mounting surface, smooth and greased | 0.10                 | $^\circ\text{C/W}$ |
| Approximate Weight  | wt              | -                                    | 56                   | g                  |
| Mounting Torque   | $T_M$           | -                                    | 40 (min)<br>58 (max) | Kg-cm              |
| Case Style  | TO-249( 9 pin)  |                                      |                      |                    |



**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**

