

152CMQ030 SCHOTTKY RECTIFIER

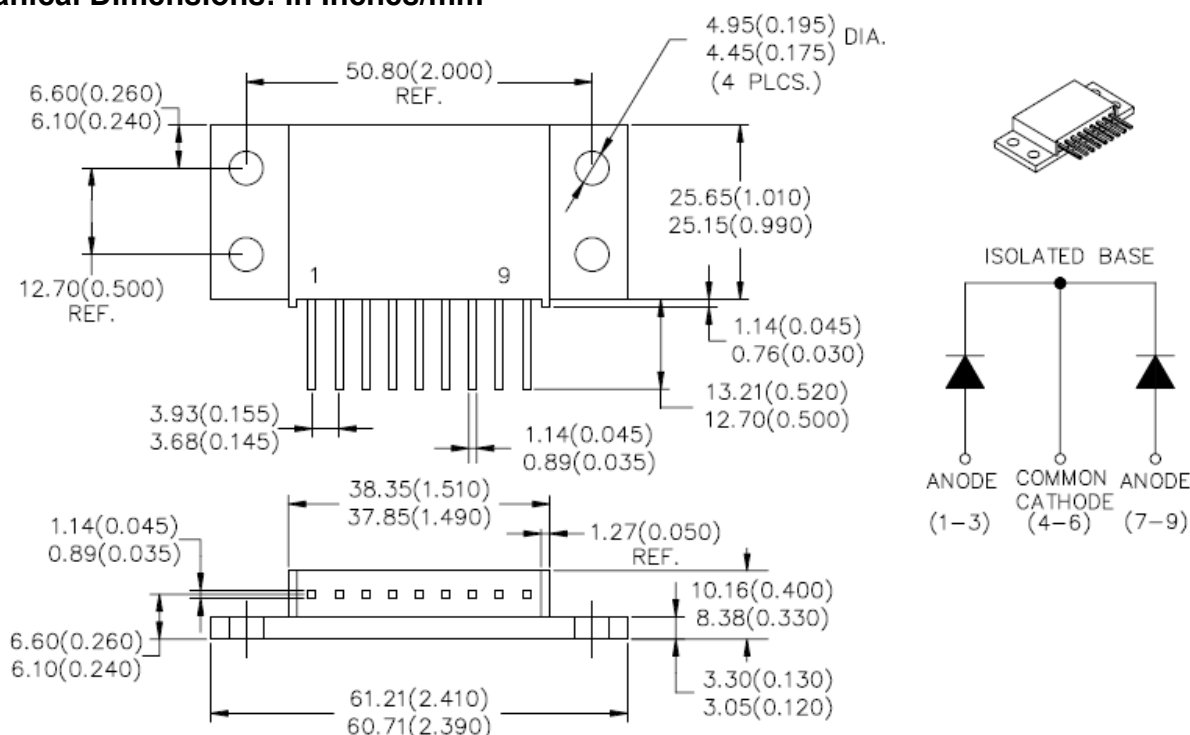
Applications:

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

Features:

- 150 °C T_J 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 152CMQ030, 1st row SS YYWWL, 2nd row 152CMQ030, 3rd 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

Technical Data
Data Sheet N1180, Rev. -
Green Products
Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|-------------|---|------|-------|
| Peak Inverse Voltage | V_{RWM} | - | 30 | V |
| Max. Average Forward* | $I_{F(AV)}$ | 50% duty cycle @ $T_C = 85^\circ\text{C}$, rectangular wave form | 150 | A |
| Max. Peak One Cycle Non-Repetitive Surge Current (peg leg) | I_{FSM} | 8.3 ms, half Sine pulse | 1200 | A |
| Non-Repetitive Avalanche Energy(peg leg) | E_{AS} | $T_J = 25^\circ\text{C}, I_{AS} = 15\text{A}, L = 0.6\text{mH}$ | 68 | mJ |
| Repetitive Avalanche Current(peg leg) | I_{AR} | Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical | 15 | A |

Electrical Characteristics:

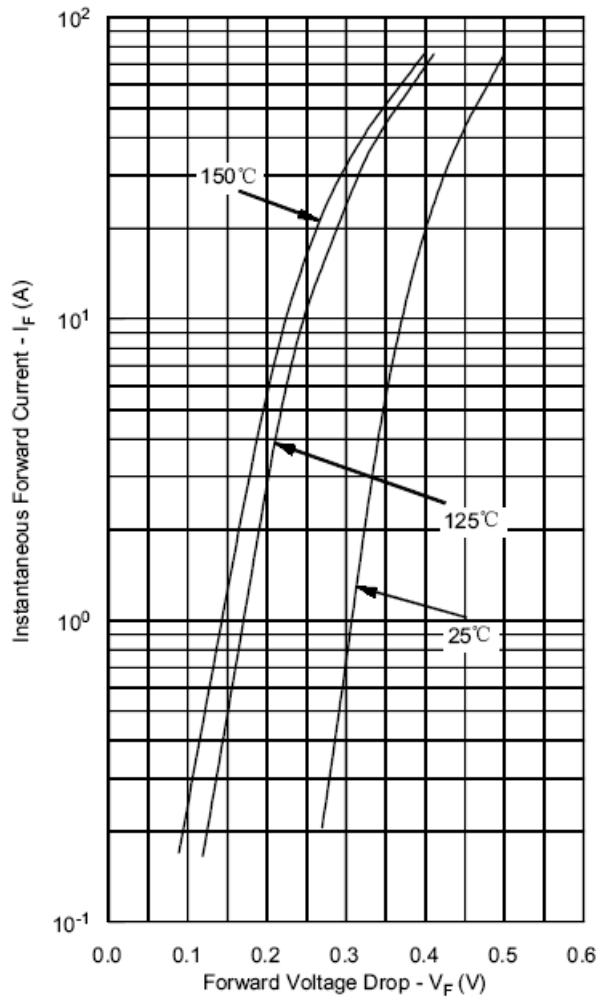
| Characteristics | Symbol | Condition | Max. | Units |
|---------------------------------------|----------|---|--------------|------------------|
| Max. Forward Voltage Drop (per leg) * | V_{F1} | @ 75A, Pulse, $T_J = 25^\circ\text{C}$ @ 150A, Pulse, $T_J = 25^\circ\text{C}$ | 0.55 0.69 | V |
| | V_{F2} | @ 75A, Pulse, $T_J = 75^\circ\text{C}$ @ 150A, Pulse, $T_J = 75^\circ\text{C}$ | 0.47 0.66 | V |
| Max. Reverse Current (per leg) * | I_{R1} | @ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$ | 5 | mA |
| | I_{R2} | @ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$ | 280 | mA |
| Max. Junction Capacitance (per leg) | C_T | @ $V_R = 5\text{V}, T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$ | 3700 | 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/ μs |

* Pulse Width < 300 μs , Duty Cycle <2%

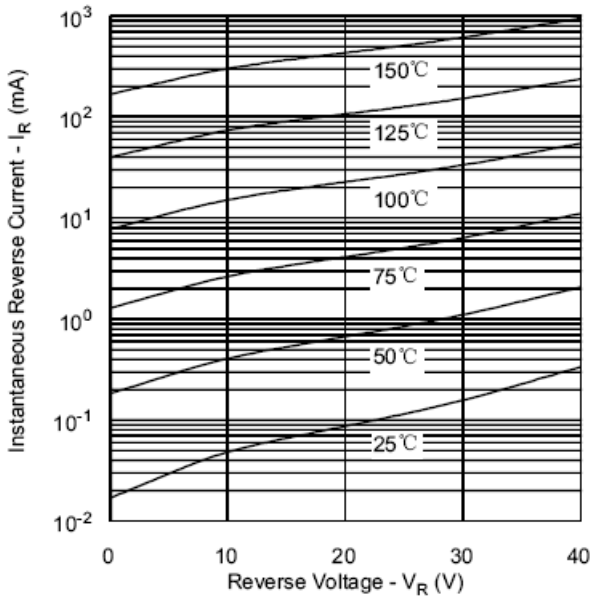
Thermal-Mechanical Specifications:

| 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 | 0.5 | $^\circ\text{C/W}$ |
| 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) | | | |

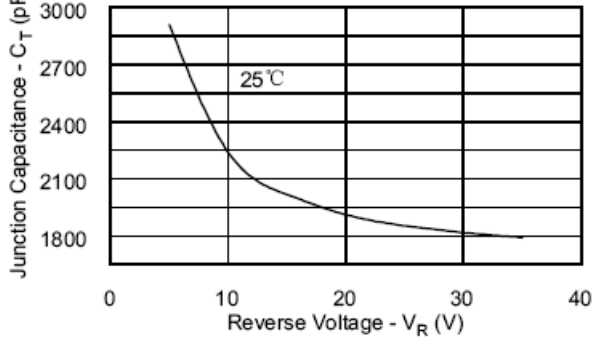
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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