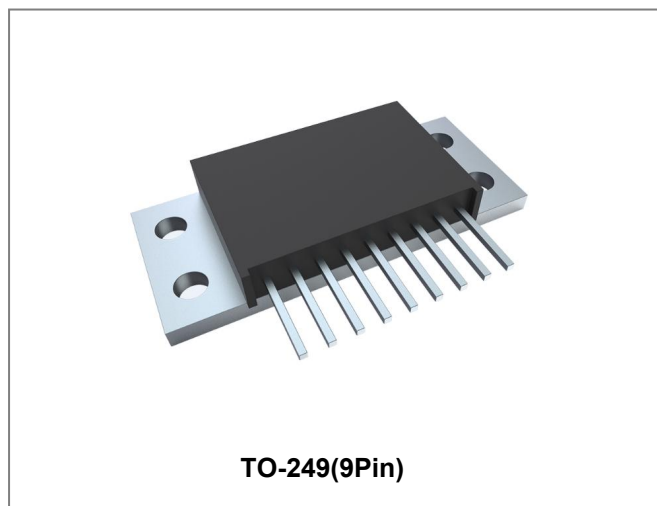


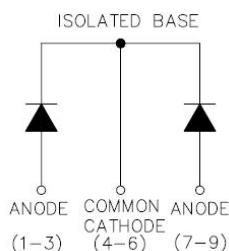
## 151CMQ...SERIES SCHOTTKY RECTIFIER



### 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
- Base plate: Nickel plated; Terminals: Nickel plated
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Schematic & Pin Configuration



### Applications

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

### Maximum Ratings (limiting values, at 25 °C unless otherwise specified)

Characteristics	Symbol	Condition	Max.		Units
			35	151CMQ035	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	-	40	151CMQ040	V
			45	151CMQ045	
Average Rectified Forward Current	I <sub>F(AV)</sub>	50% duty cycle @T <sub>C</sub> =71°C, rectangular wave form	75(Per Leg) 150(Per Device)		
Peak One Cycle Non-Repetitive Surge Current	I <sub>FSM</sub>	8.3 ms, half Sine pulse	1440		A
Non-Repetitive Avalanche Energy (Peg Leg)	E <sub>AS</sub>	T <sub>J</sub> =25°C, I <sub>AS</sub> =15A, L=0.9mH	101		mJ
Repetitive Avalanche Current(Peg Leg)	I <sub>AR</sub>	Current decaying linearly to zero in 1 μsec Frequency limited by T <sub>J</sub> max. V <sub>A</sub> =1.5×V <sub>R</sub> typical	15		A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Peg Leg)*	$V_{F1}$	@ 75A, Pulse, $T_J = 25\text{ }^\circ\text{C}$ @ 150A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.69 0.87	0.71 0.89	V
	$V_{F2}$	@ 75A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ @ 150A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.61 0.75	0.63 0.80	V
Reverse Current(Peg Leg)*	$I_{R1}$	@ $V_R = \text{rated } V_R, T_J = 25\text{ }^\circ\text{C}$	0.02	5	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R, T_J = 125\text{ }^\circ\text{C}$	5	45	mA
Junction Capacitance(Peg Leg)	$C_T$	@ $V_R = 5\text{V}, T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	2160	2600	pF
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
Junction Temperature	$T_J$	-	-55 to +175	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-	-55 to +175	$^\circ\text{C}$
Typical Thermal Resistance Junction to Case (Per Leg)	$R_{\theta JC}$	DC operation	1.0	$^\circ\text{C/W}$
Typical 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	-	61	g
Case Style	TO-249(9 pin)			

**Ratings and Characteristics Curves**

Figure 1  
Typical Forward Characteristics

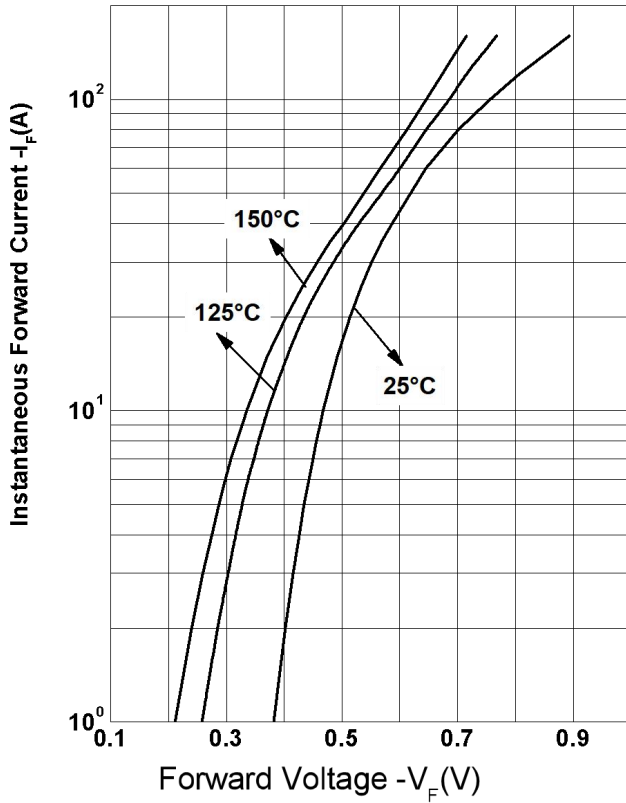


Figure 2  
Typical Reverse Characteristics

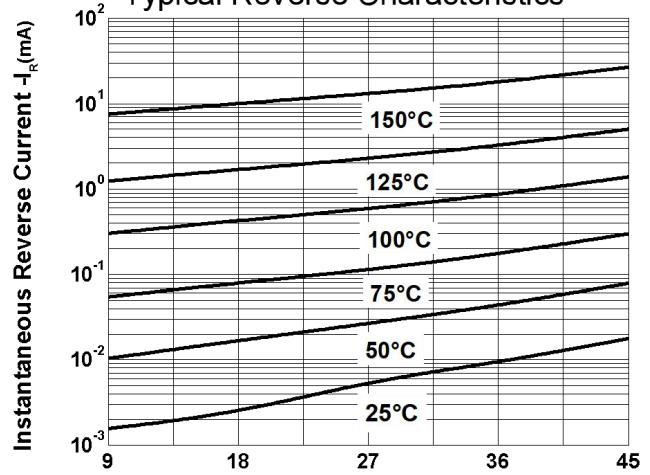
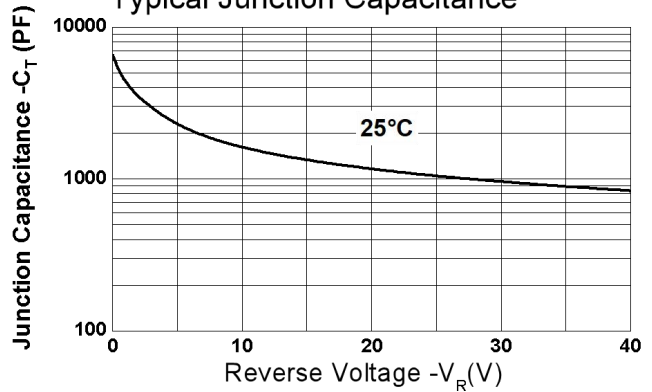


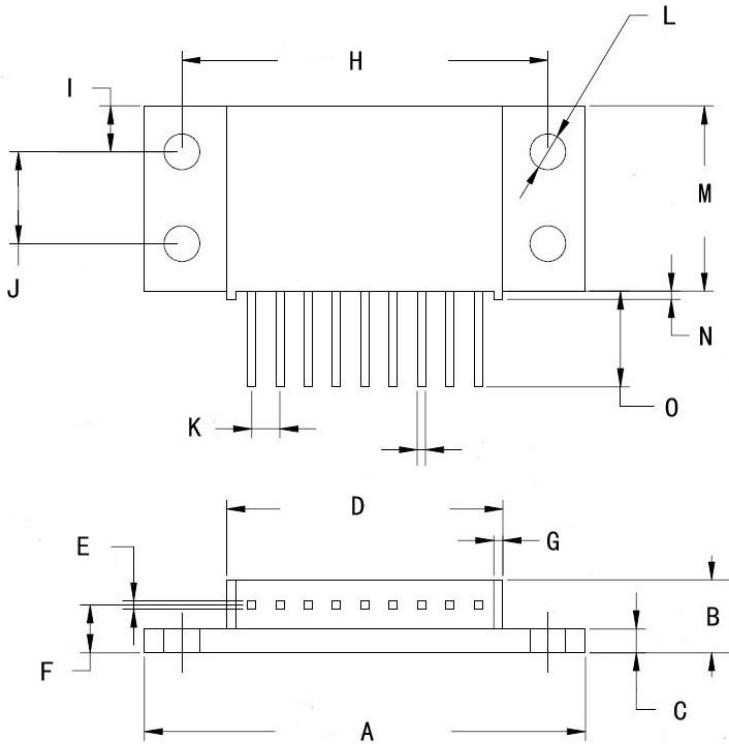
Figure 3  
Reverse Voltage  $-V_R$  (V)  
Typical Junction Capacitance



**Ordering Information**

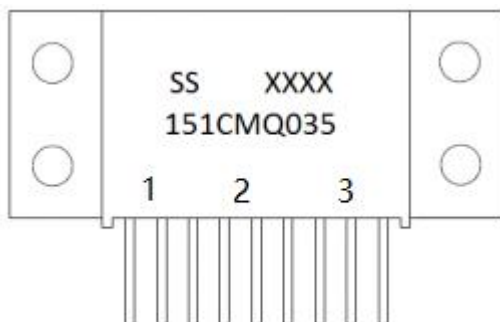
Device	Package	Shipping
151CMQ SERIES	TO-249(Pb-Free)	24pcs/ box

**Mechanical Dimensions TO-249(9pin) (Inches/Millimeters)**



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	60.38	61.58	2.377	2.424
B	8.38	10.16	0.330	0.400
C	2.77	3.57	0.109	0.141
D	37.00	38.20	1.457	1.504
E	0.62	1.32	0.024	0.052
F	6.35		0.250	
G	1.27		0.050	
H	50.80		2.000	
I	6.35		0.250	
J	12.70		0.500	
K	3.38	4.23	0.133	0.167
L	4.35	5.05	0.171	0.199
M	24.90	25.90	0.980	1.020
N	0.64	1.26	0.025	0.050
O	11.80	13.51	0.465	0.532
P	0.69	1.34	0.027	0.053

**Marking Diagram**



Where XXXX is YYWW

1st row SS YYWW  
2nd row 151CMQ035  
3rd row 1 2 3 (pin)  
SS = SS  
YY = Year  
WW = Week

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

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