

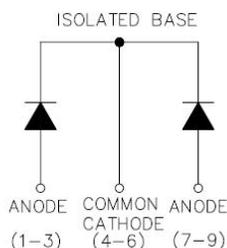
## 153CMQ080/153CMQ100 SCHOTTKY RECTIFIER



### 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
- Baseplate: 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:

Characteristics	Symbol	Condition	Max.		Units
			80	153CMQ080	
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	-	80	153CMQ080	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		100	153CMQ100	
DC Blocking Voltage	V <sub>R</sub>				
Average Rectified Forward Current	I <sub>F (AV)</sub>	50% duty cycle @T <sub>c</sub> =90°C, rectangular wave form	75(Per Leg) 150(Per Device)		A
Peak One Cycle Non-Repetitive Surge Current	I <sub>FSM</sub>	8.3 ms, half Sine pulse	864		A
Non-Repetitive Avalanche Energy (Peg Leg)	E <sub>AS</sub>	T <sub>J</sub> =25°C, I <sub>AS</sub> =1A, L=30mH	15		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	1		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, $T_J = 25\text{ }^\circ\text{C}$	0.80 -	0.96 1.19	V
	$V_{F2}$	@ 75A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ @ 150A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.67 -	0.80 0.99	V
Reverse Current(Peg Leg)*	$I_{R1}$	@ $V_R = \text{rated } V_R, T_J = 25\text{ }^\circ\text{C}$	0.005	1.5	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R, T_J = 125\text{ }^\circ\text{C}$	20	50	mA
Junction Capacitance(Peg Leg)	$C_T$	@ $V_R = 5\text{V}, T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	1200	1400	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/ $\mu\text{s}$

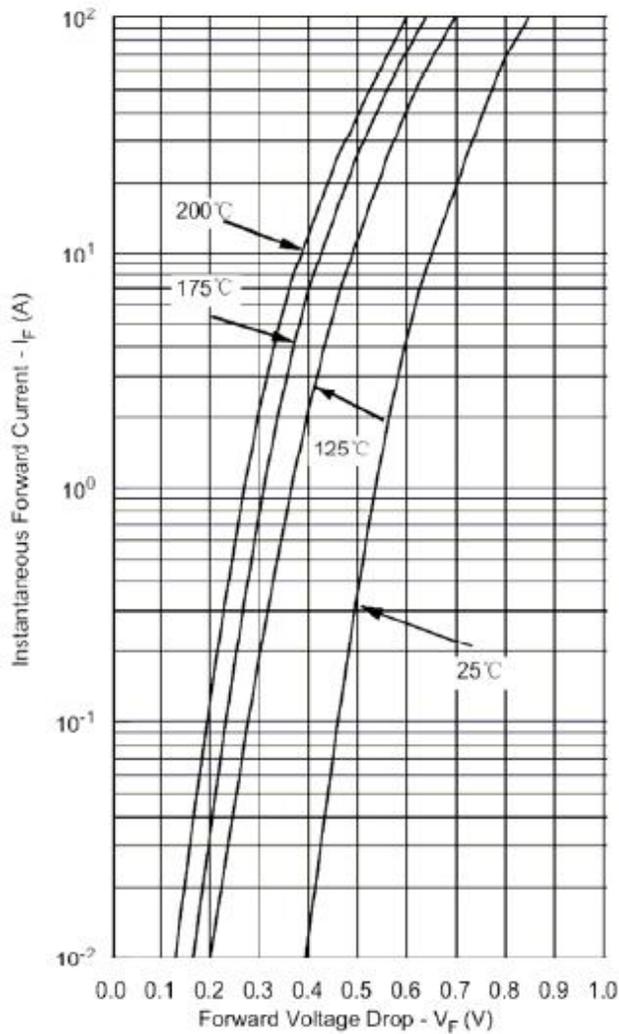
\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

**Thermal-Mechanical Specifications:**

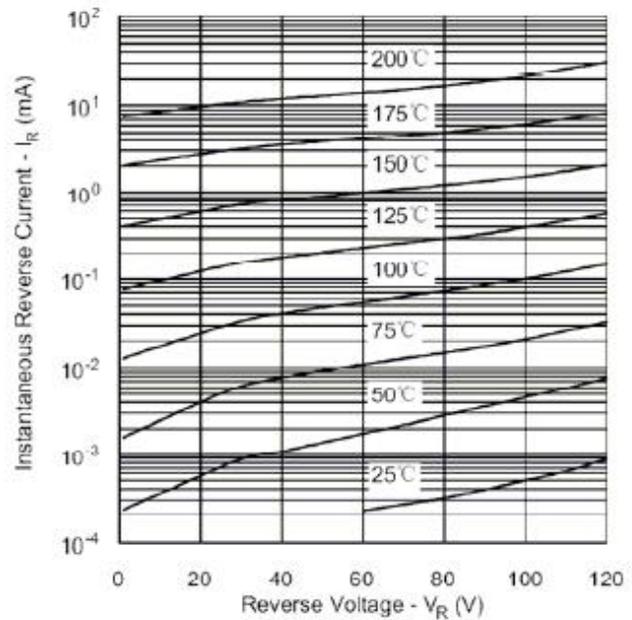
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +175	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-	-55 to +175	$^\circ\text{C}$
Typical Thermal Resistance Junction to Case (Per Leg)	$R_{\theta JC}$	DC operation	1.0	$^\circ\text{C/W}$
Typical Thermal Resistance 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	-	56	g
Case Style	TO-249(9 pin)			

**Ratings and Characteristics Curves**

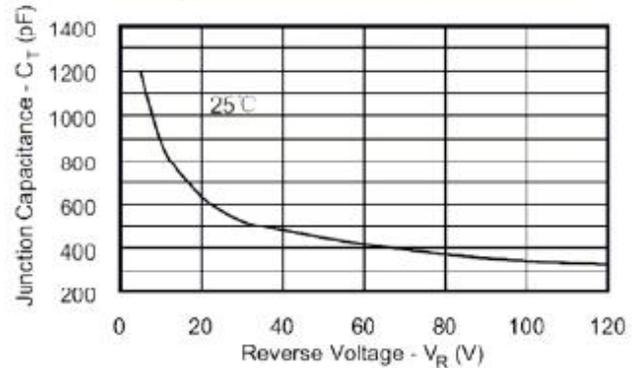
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



**Ordering Information**

Device	Package	Shipping
153CMQ SERIES	TO-249(Pb-Free)	24pcs/ box

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.



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