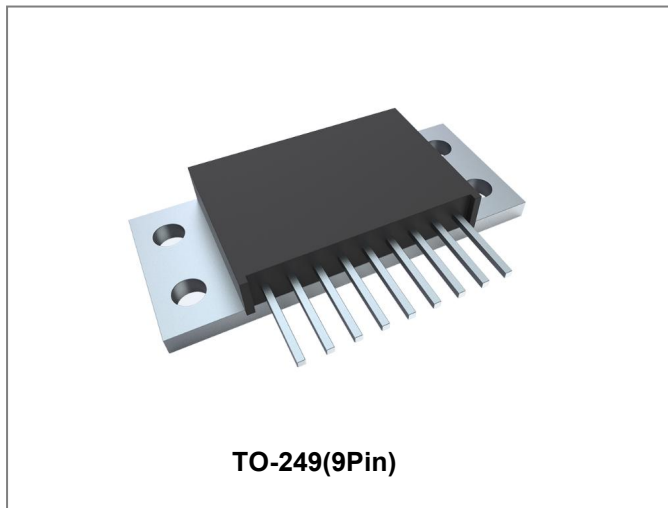




**THE DATASHEET OF
153CMQ100**



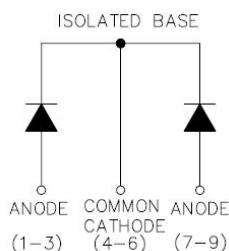
153CMQ080/153CMQ100 SCHOTTKY RECTIFIER



Features

- 175 °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
- 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
			80	153CMQ080	
Peak Repetitive Reverse Voltage	V _{RRM}	-	80	153CMQ080	V
Working Peak Reverse Voltage	V _{RWM}		100	153CMQ100	
DC Blocking Voltage	V _R				
Average Rectified Forward Current	I _{F(AV)}	50% duty cycle @T _c =90°C, rectangular wave form	75(Per Leg) 150(Per Device)		A
Peak One Cycle Non-Repetitive Surge Current	I _{FSM}	8.3 ms, half Sine pulse	864		A
Non-Repetitive Avalanche Energy (Peg Leg)	E _{AS}	T _J =25°C, I _{AS} =1A, L=30mH	15		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×V _R typical	1		A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Peg Leg)*	V _{F1}	@ 75A, Pulse, T _J = 25 °C @ 150A, Pulse, T _J = 25 °C	0.84 0.94	0.96 1.19	V
	V _{F2}	@ 75A, Pulse, T _J = 125 °C @ 150A, Pulse, T _J = 125 °C	0.73 0.81	0.80 0.99	V
Reverse Current(Peg Leg)*	I _{R1}	@V _R = rated V _R , T _J = 25 °C	0.3	1500	uA
	I _{R2}	@V _R = rated V _R , T _J = 125 °C	0.1	50	mA
Junction Capacitance(Peg Leg)	C _T	@V _R = 5V, T _C = 25 °C f _{SIG} = 1MHz	1340	1400	pF
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
Junction Temperature	T _J	-	-55 to +175	°C
Storage Temperature	T _{stg}	-	-55 to +175	°C
Typical Thermal Resistance Junction to Case (Per Leg)	R _{θJC}	DC operation	1.0	°C/W
Typical Thermal Resistance Junction to Case (Per Package)	R _{θJC}	DC operation	0.50	°C/W
Typical Thermal Resistance, case to Heat Sink	R _{θcs}	Mounting surface, smooth and greased	0.10	°C/W
Mounting Torque	T _M	-	40(min) 58(max)	Kg-cm
Approximate Weight	wt	-	61	g
Case Style	TO-249(9 pin)			

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

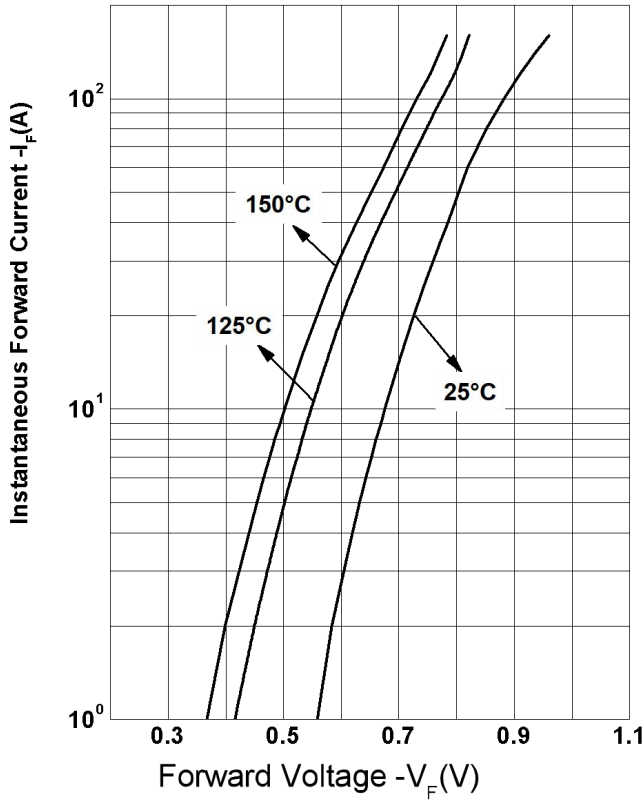


Figure 2
Typical Reverse Characteristics

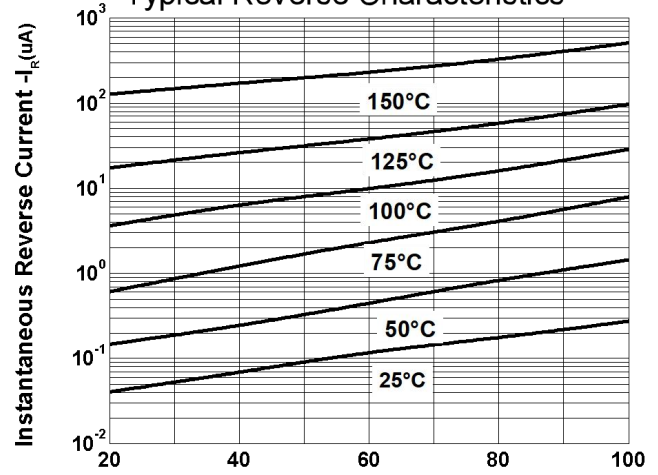
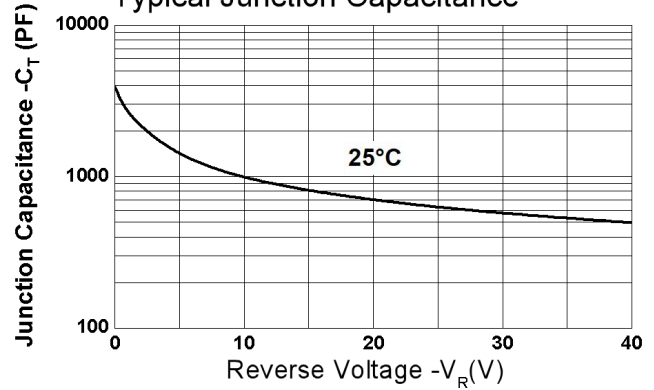


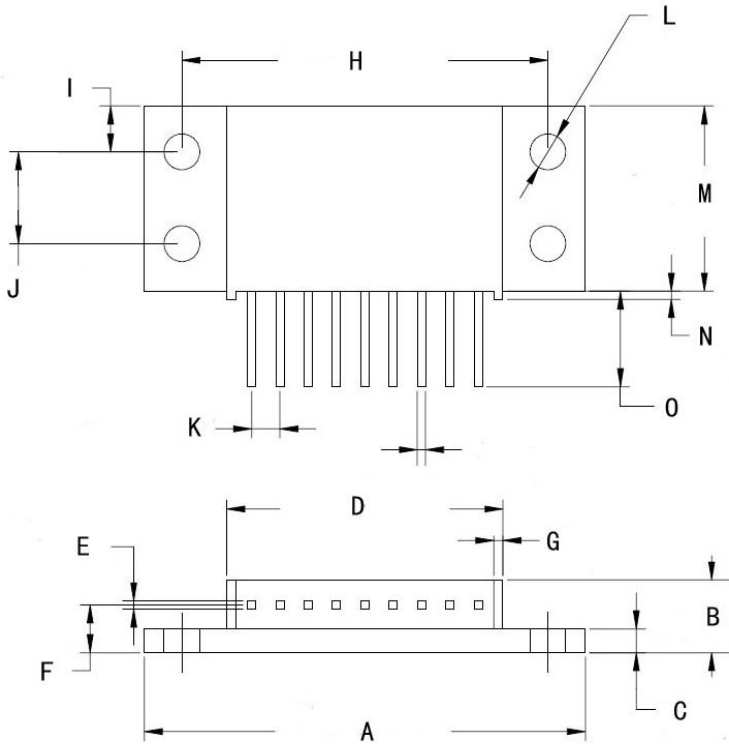
Figure 3
Reverse Voltage $-V_R$ (V)
Typical Junction Capacitance



Ordering Information

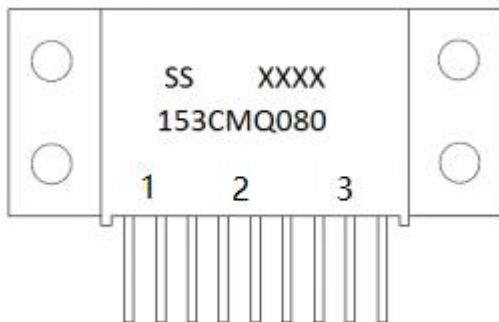
Device	Package	Shipping
153CMQ SERIES	TO-249(Pb-Free)	24pcs/ box

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 153CMQ080
3rd row 1 2 3 (pin)
SS = SS
YY = Year
WW = Week

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

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