

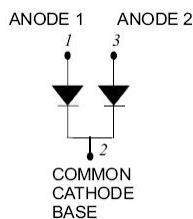
## 160CMQ...SERIES SCHOTTKY RECTIFIER



### Features

- 150 °C T<sub>J</sub> operation
- Isolated heatsink
- 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:

Characteristics	Symbol	Condition	Max.		Units
			35	160CMQ035	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	-	40	160CMQ040	V
			45	160CMQ045	
Average Rectified Forward Current	I <sub>F(AV)</sub>	50% duty cycle @T <sub>C</sub> =71°C, rectangular wave form	80(Per Leg) 160(Per Device)		A
Peak One Cycle Non-Repetitive Surge Current	I <sub>FSM</sub>	8.3 ms, half Sine pulse	900		A
Non-Repetitive Avalanche Energy (Peg Leg)	E <sub>AS</sub>	T <sub>J</sub> =25°C, I <sub>AS</sub> =16A, L=0.84mH	108		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	16		A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Peg Leg)*	V <sub>F1</sub>	@ 80A, Pulse, T <sub>J</sub> = 25 °C	0.63	0.64	V
		@ 160A, Pulse, T <sub>J</sub> = 25 °C	0.83	0.86	
	V <sub>F2</sub>	@ 80A, Pulse, T <sub>J</sub> = 125 °C	0.60	0.65	V
		@ 160A, Pulse, T <sub>J</sub> = 125 °C	0.77	0.80	
Reverse Current(Peg Leg)*	I <sub>R1</sub>	@V <sub>R</sub> = rated VR T <sub>J</sub> = 25 °C	0.2	5	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated VR ,T <sub>J</sub> = 125 °C	33	200	mA
Junction Capacitance(Peg Leg)	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz	2166	2600	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 <sub>J</sub>	-	-55 to +150	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case (Per Leg)	R <sub>θJC</sub>	DC operation	1.0	°C/W
Typical Thermal Resistance Junction to Case (Per Package)	R <sub>θJC</sub>	DC operation	0.50	°C/W
Typical Thermal Resistance, case to Heat Sink	R <sub>θcs</sub>	Mounting surface, smooth and greased	0.10	°C/W
Mounting Torque	T <sub>M</sub>	-	40(min)	Kg-cm
			58(max)	
Approximate Weight	wt	-	61	g
Case Style	TO-249AA			

**Ratings and Characteristics Curves**

Figure 1  
Typical Forward Characteristics

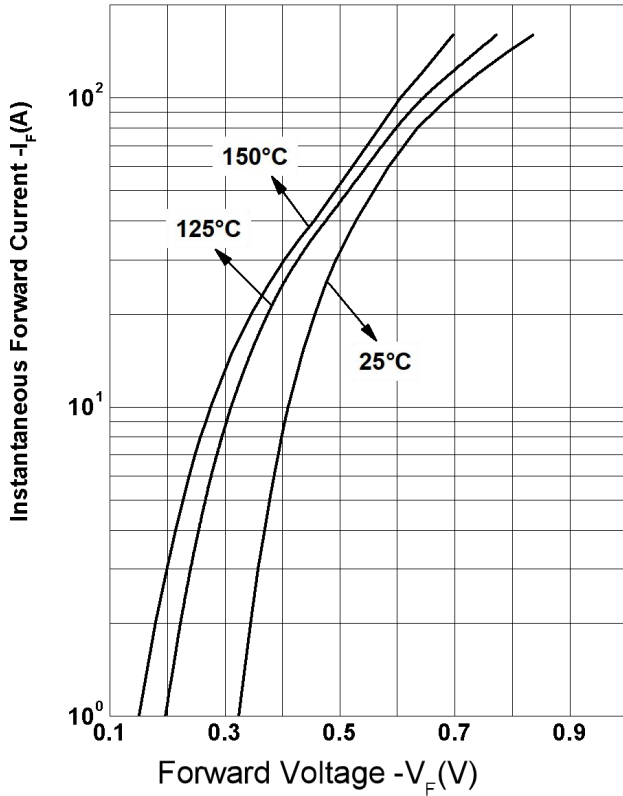


Figure 2  
Typical Reverse Characteristics

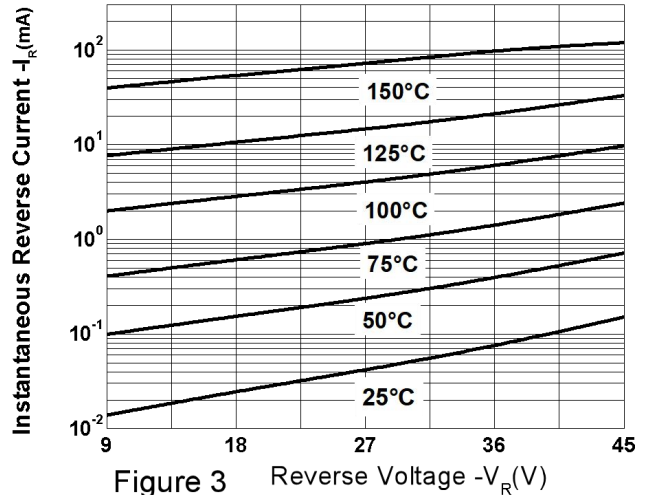
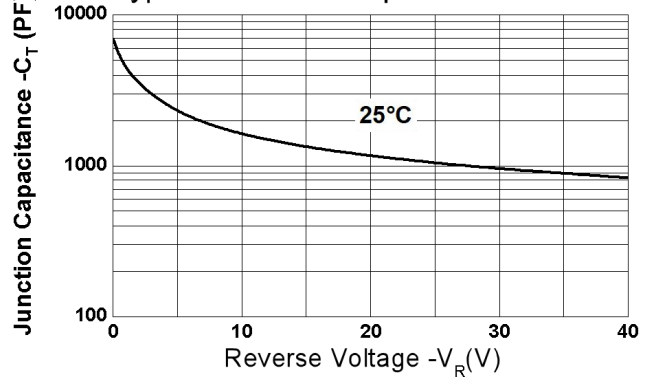


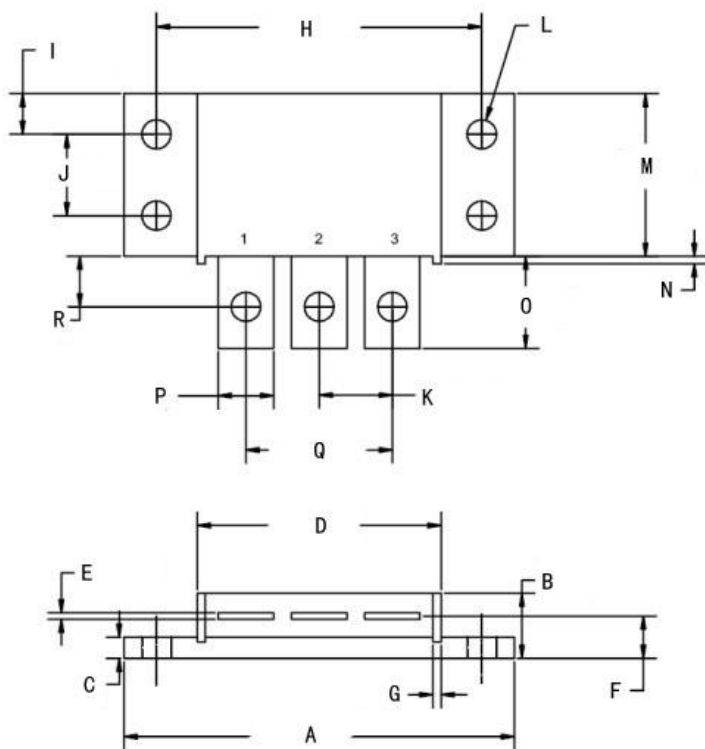
Figure 3  
Typical Junction Capacitance



**Ordering Information**

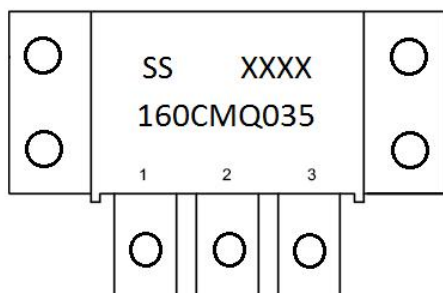
Device	Package	Shipping
160CMQ SERIES	TO-249AA(Pb-Free)	24pcs/ box

## Mechanical Dimensions TO-249AA (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	11.43		0.450	
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	8.64		0.340	
Q	22.86		0.900	
R	7.93		0.312	

## Marking Diagram



Where XXXX is YYWW

1st row SS YYWW  
2nd row 160CMQ035  
3rd row 1 2 3 (pin)  
SS = SS  
YY = Year  
WW = Week

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

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