

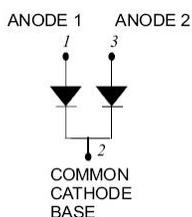
160CMQ...SERIES SCHOTTKY RECTIFIER



Features

- 150 °C T_J 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
- 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
			35	160CMQ035	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	-	40	160CMQ040	V
			45	160CMQ045	
Average Rectified Forward Current	I _{F(AV)}	50% duty cycle @T _C =71°C, rectangular wave form	80(Per Leg) 160(Per Device)		A
Peak One Cycle Non-Repetitive Surge Current	I _{FSM}	8.3 ms, half Sine pulse	900		A
Non-Repetitive Avalanche Energy (Peg Leg)	E _{AS}	T _J =25°C, I _{AS} =16A, L=0.84mH	108		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	16		A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Peg Leg)*	V_{F1}	@ 80A, Pulse, $T_J = 25\text{ }^\circ\text{C}$ @ 160A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.60 -	0.64 0.86	V
	V_{F2}	@ 80A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ @ 160A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.56 -	0.60 0.76	V
Reverse Current(Peg Leg)*	I_{R1}	@ $V_R = \text{rated VR}$ $T_J = 25\text{ }^\circ\text{C}$	0.1	5	mA
	I_{R2}	@ $V_R = \text{rated VR}$, $T_J = 125\text{ }^\circ\text{C}$	80	200	mA
Junction Capacitance(Peg Leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	2000	2600	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/ μs

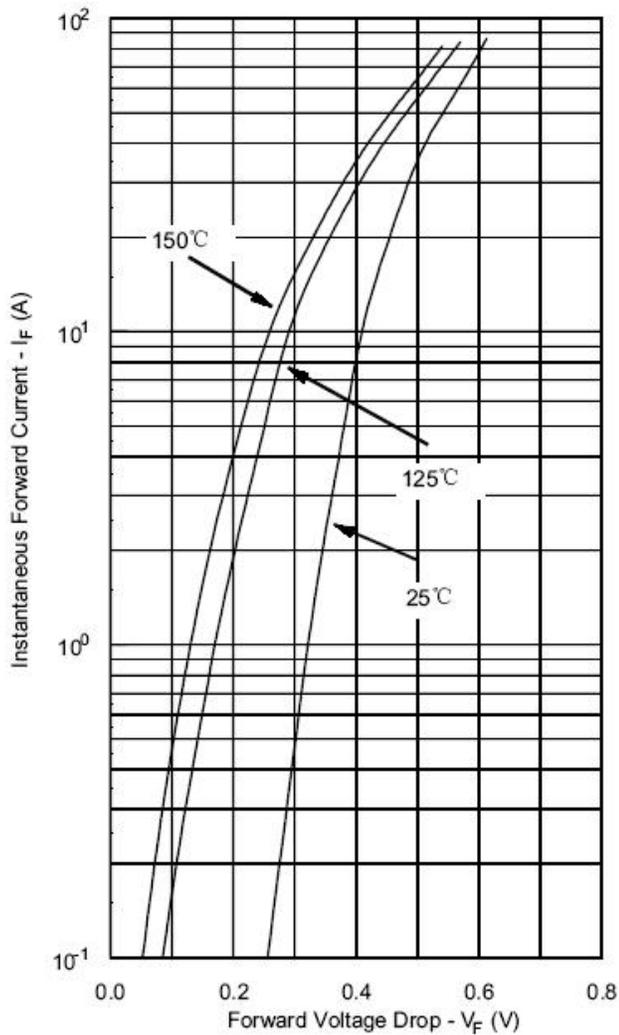
* Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications:

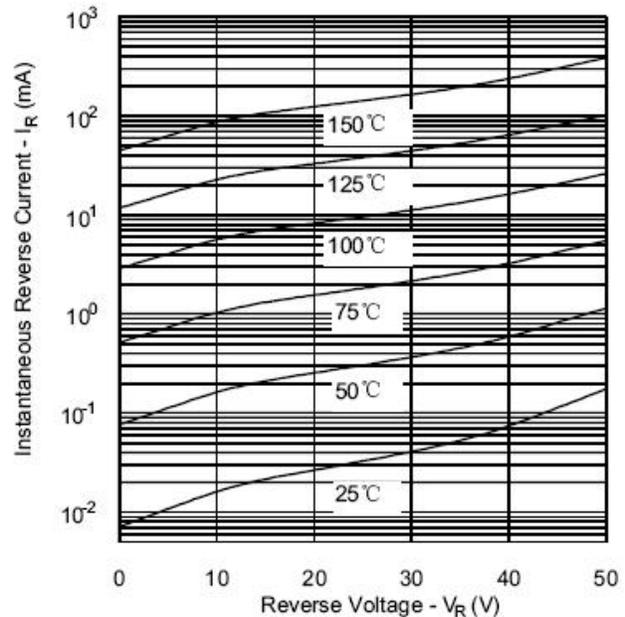
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$
Typical Thermal Resistance Junction to Case (Per Leg)	$R_{\theta JC}$	DC operation	1.0	$^\circ\text{C/W}$
Typical Thermal Resistance 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	-	58	g
Case Style	TO-249AA			

Ratings and Characteristics Curves

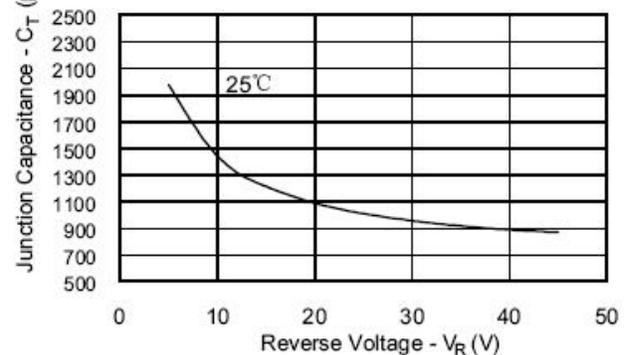
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance

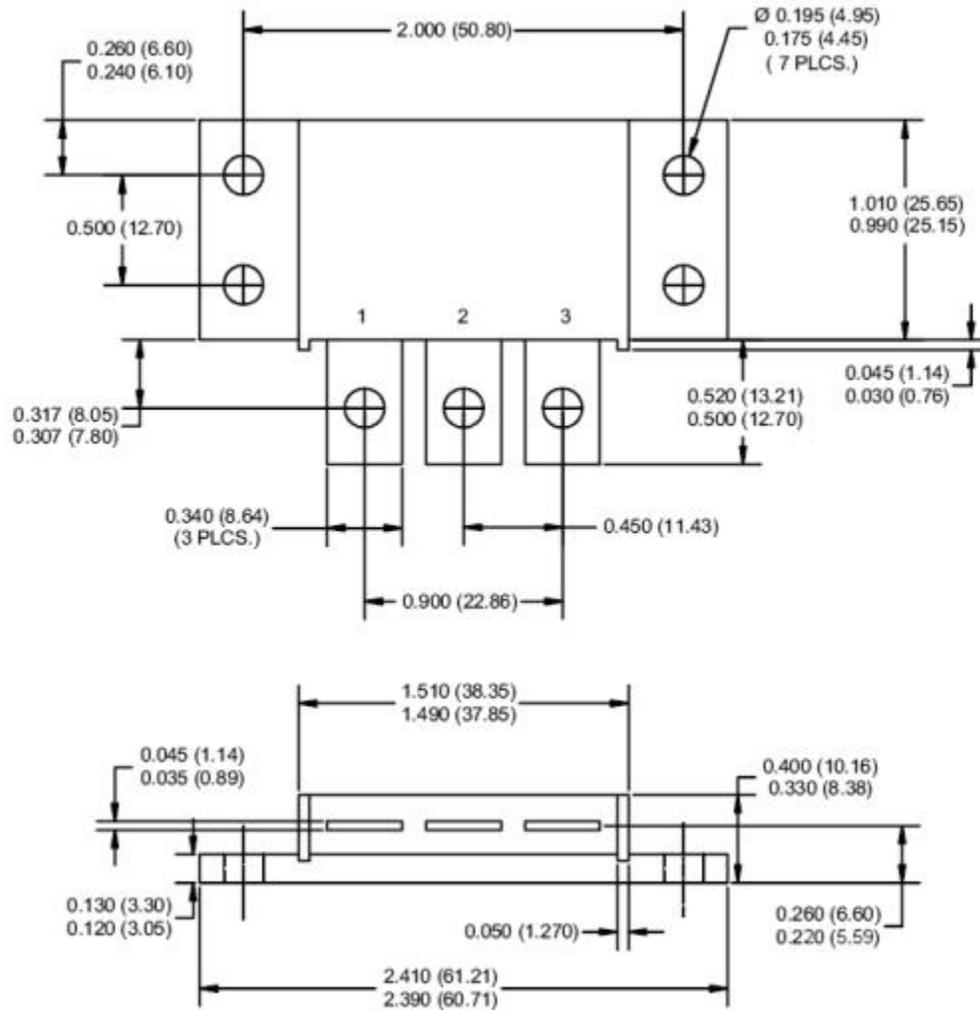


Ordering Information

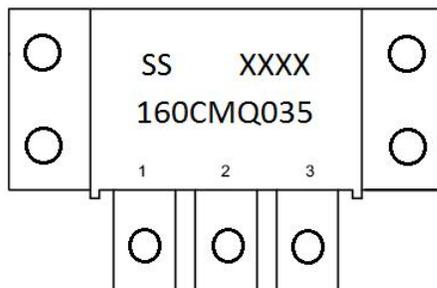
Device	Package	Shipping
160CMQ SERIES	TO-249AA(Pb-Free)	24pcs/ box

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

Mechanical Dimensions TO-249AA (Inches/Millimeters)



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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