

160CMQ...SERIES SCHOTTKY RECTIFIER

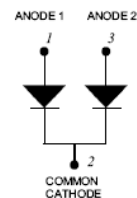
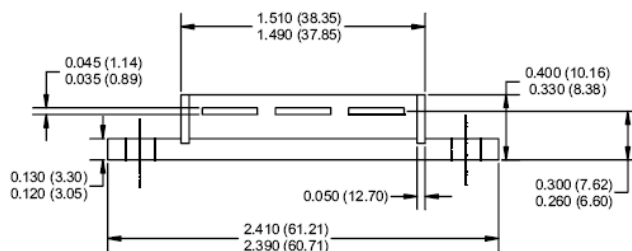
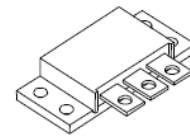
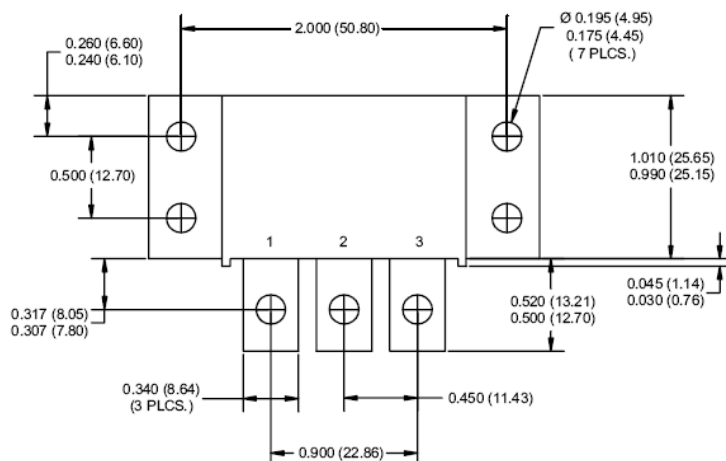
Applications:

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

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
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Mechanical Dimensions: In mm/Inches



TO-249AA

MARKING, MOLDING RESIN

Marking for 160CMQ035/040/045, 1st row SS YYWWL, 2nd row 160CMQ035/040/045, 3rd row 1 2 3 (Pin)

Where YY is the manufacture year

WW is the manufacture week code

L is the wafer's Lot Number

Molding resin

Epoxy resin UL: 94V-0

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - sales@smc-diodes.com •



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Technical Data

Data Sheet N1094, Rev. A

Green Products

Maximum Ratings:

Characteristics	Symbol	Condition	Max.		Units
Peak Repetitive Reverse Voltage	V_{RRM}	-	35	160CMQ035	V
Working Peak Reverse Voltage	V_{RWM}		40	160CMQ040	
DC Blocking Voltage	V_R		45	160CMQ045	
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 71^\circ\text{C}$, rectangular wave form	160		A
Peak One Cycle Non-Repetitive Surge Current(peg leg)	I_{FSM}	8.3 ms, half Sine pulse	900		A
Non-Repetitive Avalanche Energy(peg leg)	E_{AS}	$T_J = 25^\circ\text{C}$, $I_{AS} = 16\text{A}$, $L = 0.84\text{mH}$	108		mJ
Repetitive Avalanche Current(peg leg)	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical	16		A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop (per leg) *	V_{F1}	@ 80A, Pulse, $T_J = 25^\circ\text{C}$	0.64	V
		@ 160A, Pulse, $T_J = 25^\circ\text{C}$	0.86	
	V_{F2}	@ 80A, Pulse, $T_J = 125^\circ\text{C}$	0.60	V
		@ 160A, Pulse, $T_J = 125^\circ\text{C}$	0.76	
Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$, $T_J = 25^\circ\text{C}$	5	mA
	I_{R2}	@ $V_R = \text{rated } V_R$, $T_J = 125^\circ\text{C}$	200	mA
Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{\text{SIG}} = 1\text{MHz}$	2600	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	8.0	nH
Voltage Rate of Change	dv/dt	-	10,000	V/ μs

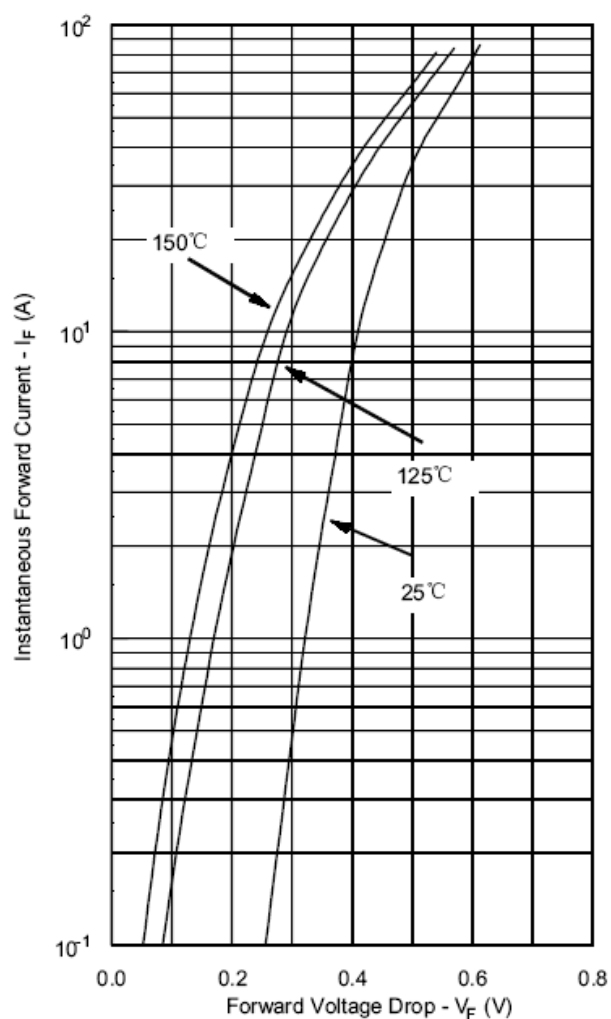
* Pulse Width < 300 μs , Duty Cycle < 2%

Thermal-Mechanical Specifications:

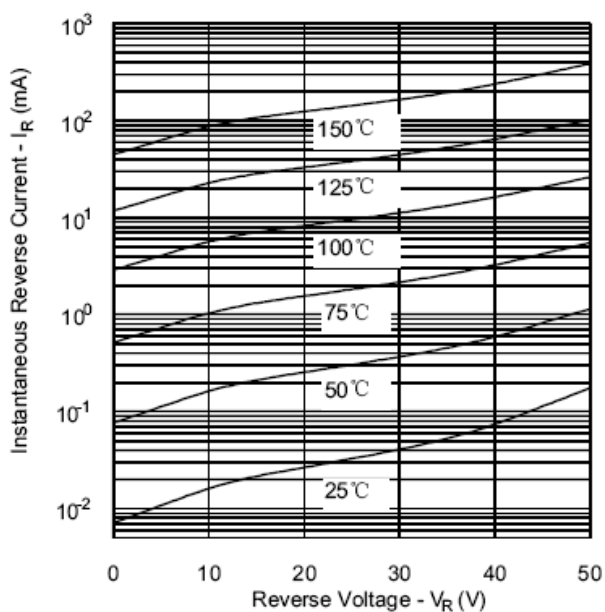
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$
Typical Thermal Resistance Junction to Case(per leg)	$R_{\theta JC}$	DC operation	1.0	$^\circ\text{C/W}$
Typical Thermal Resistance Junction 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			

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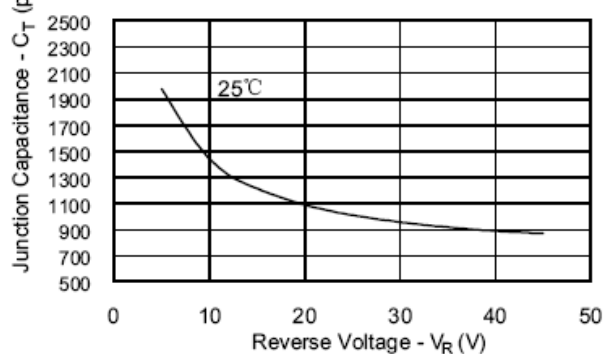
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance





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