

Technical Data
Data Sheet N1183, Rev. -

Green Products

161CMQ...SERIES SCHOTTKY RECTIFIER

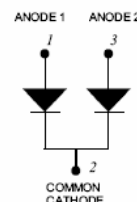
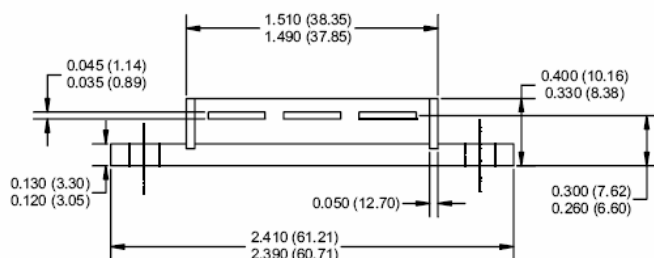
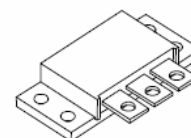
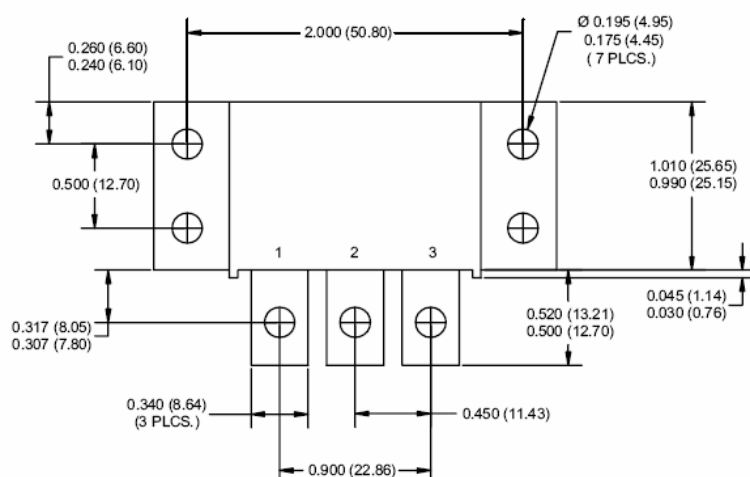
Applications:

- 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 Inches/mm



TO-249AA

MARKING, MOLDING RESIN

Marking for 161CMQ035/040/045, 1st row SS YYWWL, 2nd row 161CMQ035/040/045, 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

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Maximum Ratings:

Characteristics	Symbol	Condition	Max.		Units
Peak Inverse Voltage	V _{RWM}	-	35	161CMQ035	V
			40	161CMQ040	
			45	161CMQ045	
Max. Average Forward*	I _{F(AV)}	50% duty cycle @T _C = 101°C, rectangular wave form	160		A
Max. Peak One Cycle Non-Repetitive Surge Current (peg leg)	I _{FSM}	8.3 ms, half Sine pulse	1080		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:

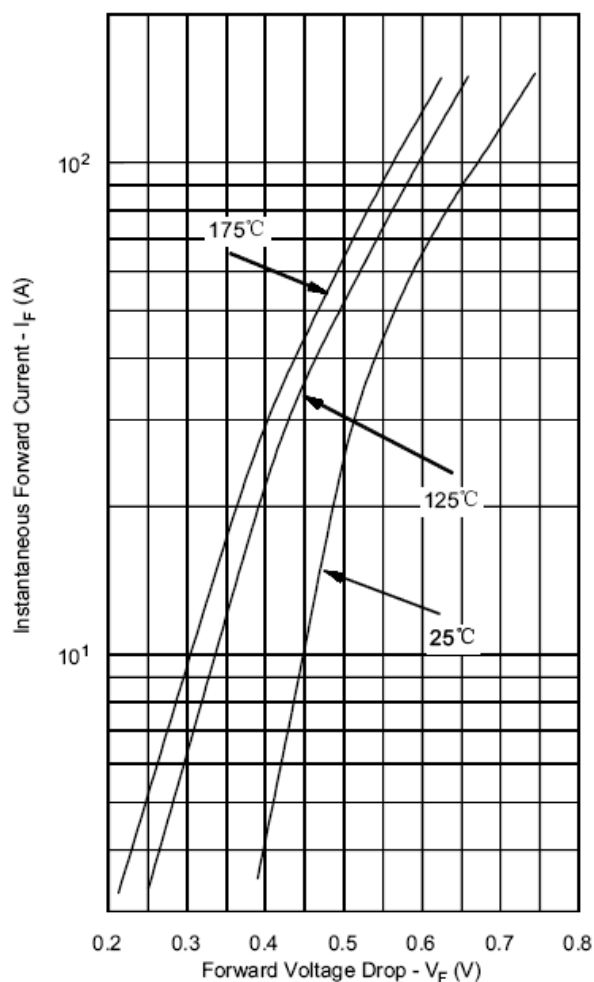
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 80A, Pulse, $T_J = 25^\circ\text{C}$	0.71	V
	V_{F2}	@ 160A, Pulse, $T_J = 25^\circ\text{C}$	0.88	V
Max. Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$, $T_J = 25^\circ\text{C}$	5	mA
	I_{R2}	@ $V_R = \text{rated } V_R$, $T_J = 125^\circ\text{C}$	45	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	2600	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ μs

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

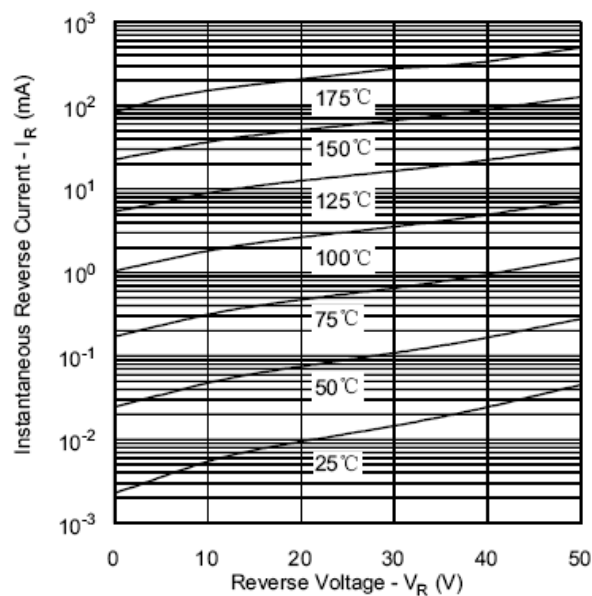
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +175	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-55 to +175	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	1.0	$^\circ\text{C/W}$
Maximum 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			

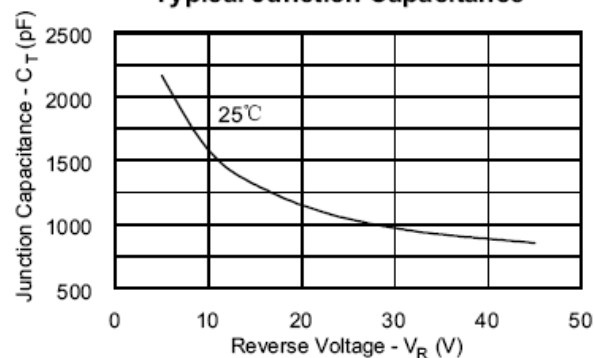
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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