



**THE DATASHEET OF
163CMQ100**



Technical Data
Data Sheet N1092, Rev. A

Green Products

163CMQ...SERIES SCHOTTKY RECTIFIER

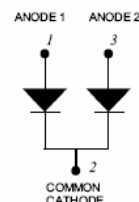
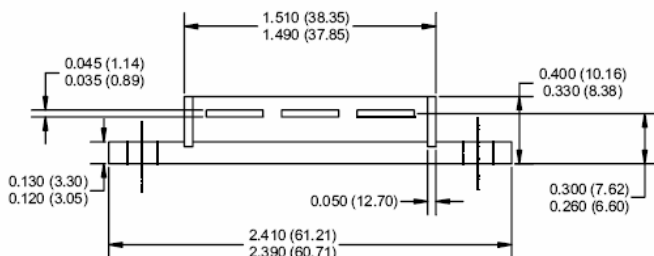
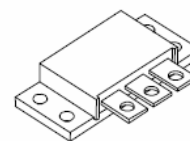
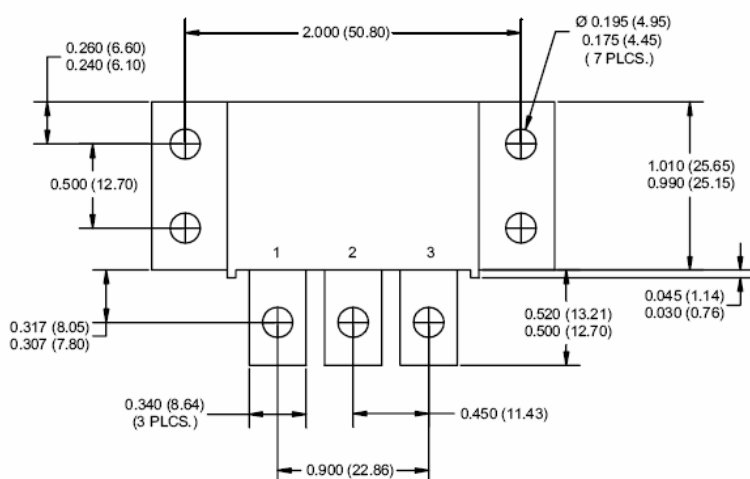
Applications:

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

Features:

- 175 °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 163CMQ080/100, 1st row SS YYWWL, 2nd row 163CMQ080/100, 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

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	80	163CMQ080
			100	163CMQ100
Max. Average Forward*	$I_{F(AV)}$	50% duty cycle @ $T_C = 87^\circ\text{C}$, rectangular wave form	160	A
Max. Peak One Cycle Non-Repetitive Surge Current (peg leg)	I_{FSM}	8.3 ms, half Sine pulse	960	A
Non-Repetitive Avalanche Energy(peg leg)	E_{AS}	$T_J = 25^\circ\text{C}, I_{AS} = 1\text{A}, L = 30\text{mH}$	15	mJ
Repetitive Avalanche Current(peg leg)	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical	1	A

Electrical Characteristics:

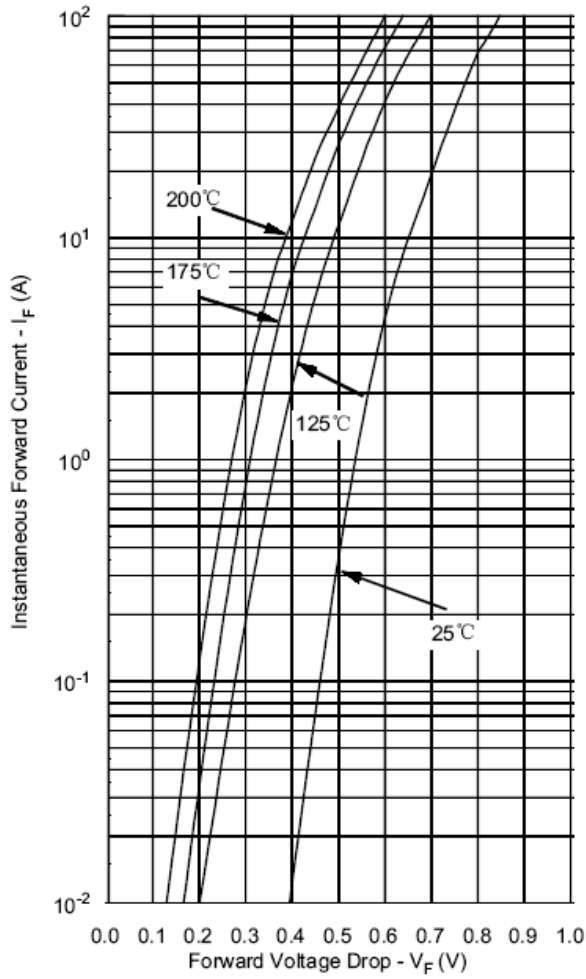
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 80A, Pulse, $T_J = 25^\circ\text{C}$	0.98	V
		@ 160A, Pulse, $T_J = 25^\circ\text{C}$	1.17	
Max. Reverse Current (per leg) *	V_{F2}	@ 80A, Pulse, $T_J = 125^\circ\text{C}$	0.80	V
		@ 160A, Pulse, $T_J = 125^\circ\text{C}$	0.96	
Max. Junction Capacitance (per leg)	I_{R1}	@ $V_R = \text{rated } V_R, T_J = 25^\circ\text{C}$	1.5	mA
		@ $V_R = \text{rated } V_R, T_J = 125^\circ\text{C}$	20	
Typical Series Inductance (per leg)	I_{R2}	@ $V_R = 5\text{V}, T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	1400	pF
Max. Voltage Rate of Change	L_S	Measured lead to lead 5 mm from package body	8.0	nH
	dv/dt	-	10,000	V/ μs

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

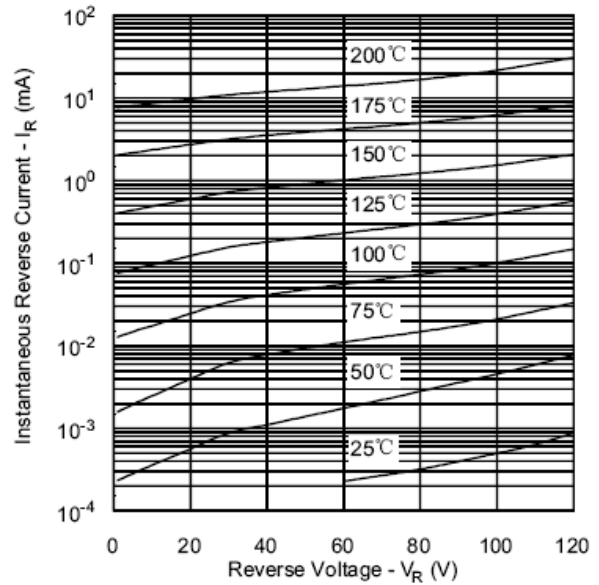
Thermal-Mechanical Specifications:

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			

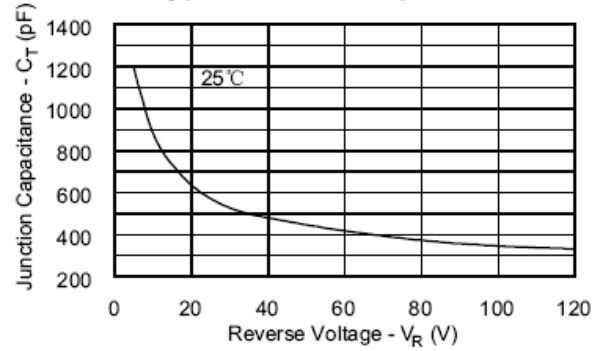
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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