

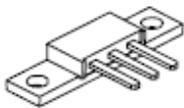
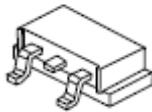
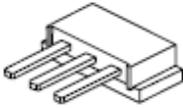
87CNQ020 SCHOTTKY RECTIFIER

Applications:

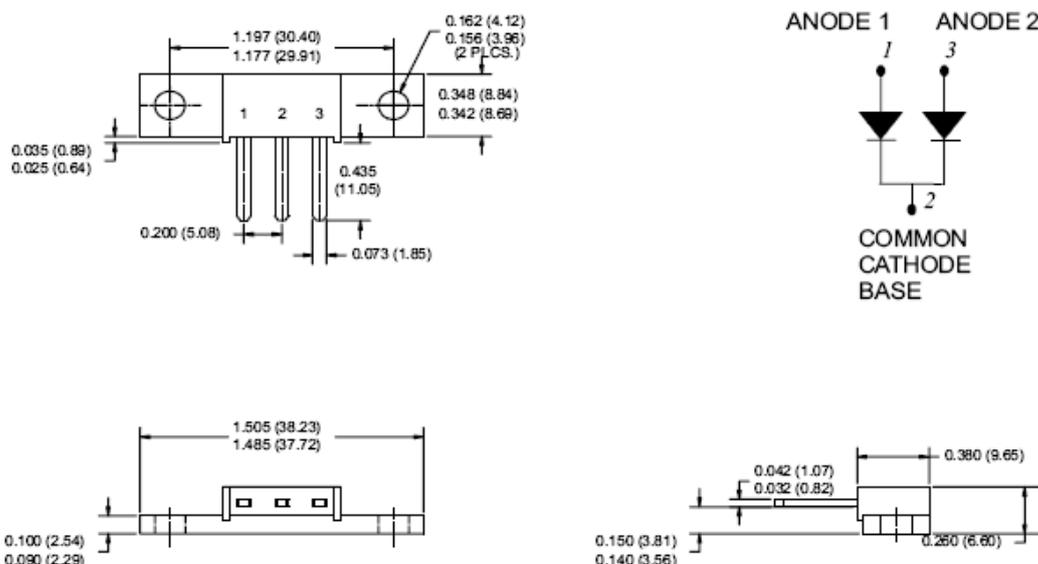
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

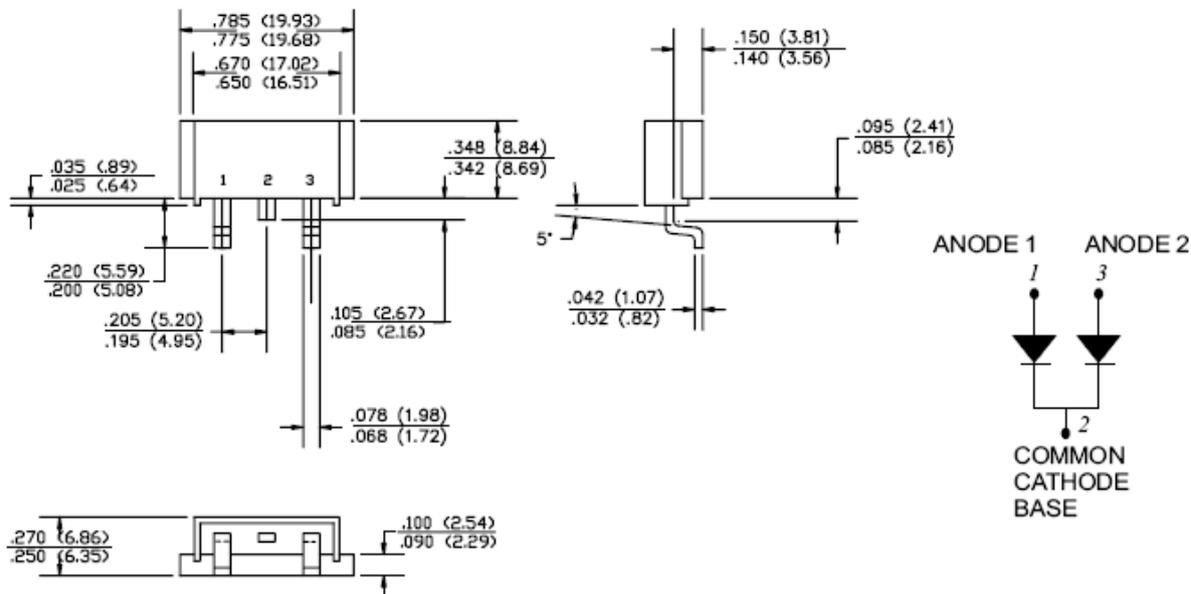
- 150°C T_J operation
- Center tap module
- Very Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Low profile, high current package
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Case Styles		
87CNQ020  PRM2	87CNQ020SL  PRM2-SL	87CNQ020SM  PRM2-SM

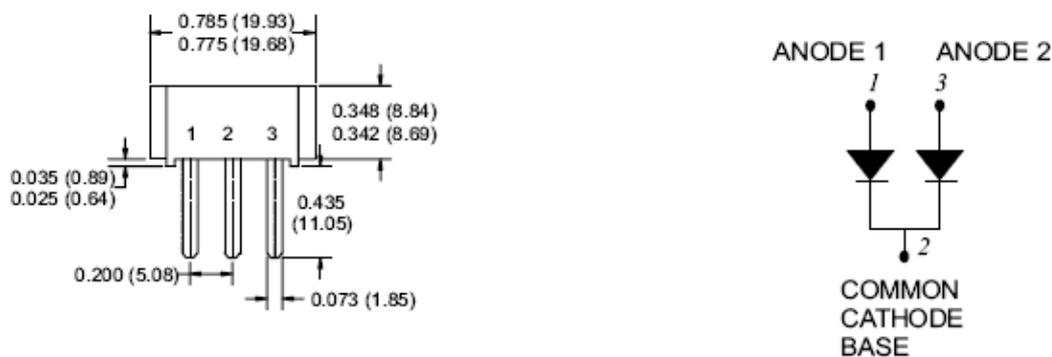
Mechanical Dimensions: In Inches / mm



PRM2



PRM2-SL



PRM2-SM

MARKING, MOLDING RESIN

Marking for 87CNQ020/SL/SM, 1st row SS YYWWL, 2nd row 87CNQ020/SL/SM, 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

Technical Data
Data Sheet N1134, Rev. -
Maximum Ratings:
Green Products

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	20	V
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @ $T_C = 135^\circ\text{C}$, rectangular wave form	80	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	1320	A
Non-Repetitive Avalanche Energy(peg leg)	E_{AS}	$T_J = 25^\circ\text{C}, I_{AS} = 8\text{A}, L = 1.12\text{mH}$	36	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	8	A

Electrical Characteristics:

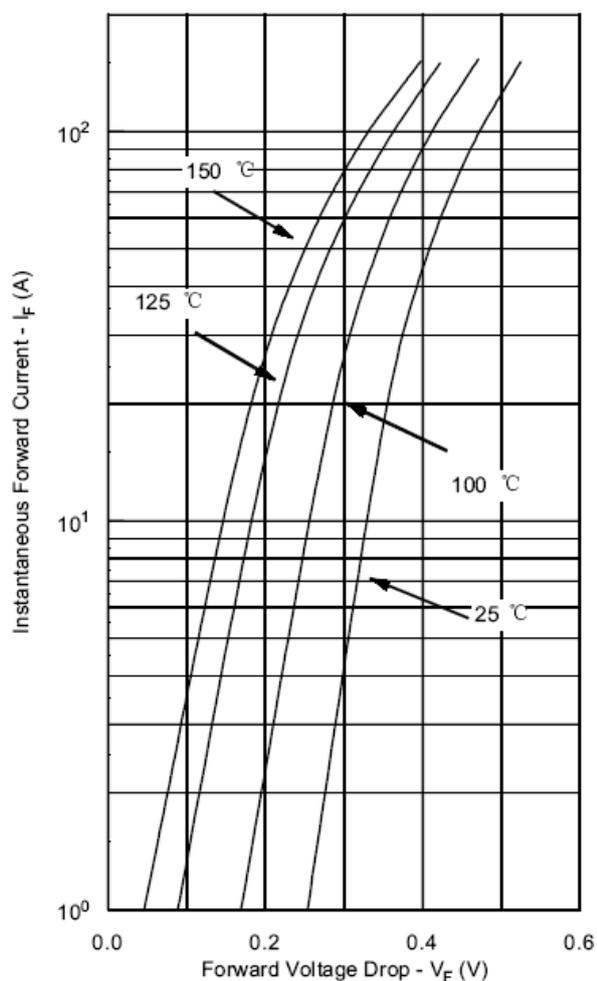
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 40A, Pulse, $T_J = 25^\circ\text{C}$ @ 80A, Pulse, $T_J = 25^\circ\text{C}$	0.45 0.51	V
	V_{F2}	@ 40A, Pulse, $T_J = 125^\circ\text{C}$ @ 80A, Pulse, $T_J = 125^\circ\text{C}$	0.32 0.39	V
Max. Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	5.5	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	550	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	6500	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	5.5	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ μs

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

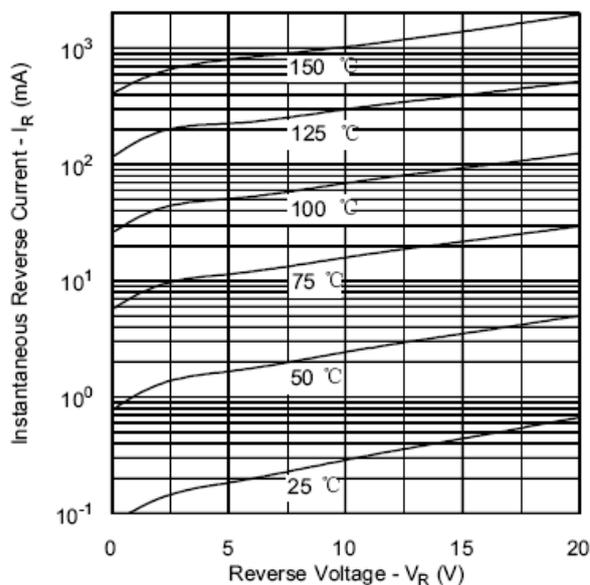
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	0.85	$^\circ\text{C/W}$
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	0.42	$^\circ\text{C/W}$
Typical Thermal Resistance, case to Heat Sink	$R_{\theta cs}$	Mounting surface, smooth and greased	0.30	$^\circ\text{C/W}$
Approximate Weight	wt	-	7.8	g
Mounting Torque	T_M	-	40(min)	Kg-cm
			58(max)	
Case Style	PRM2 PRM2-SL PRM2-SM			

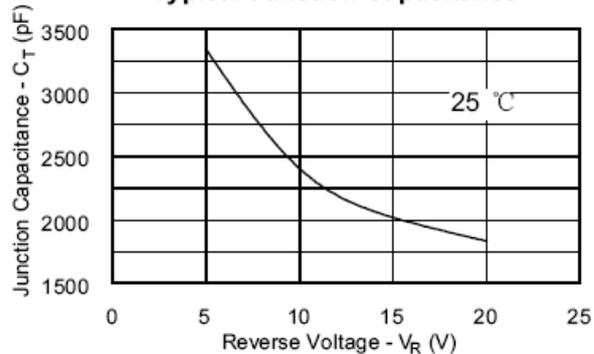
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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