

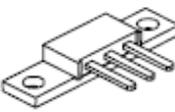
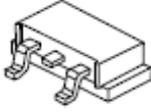
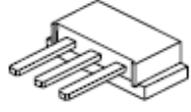
## 82CNQ030 SCHOTTKY RECTIFIER

### Applications:

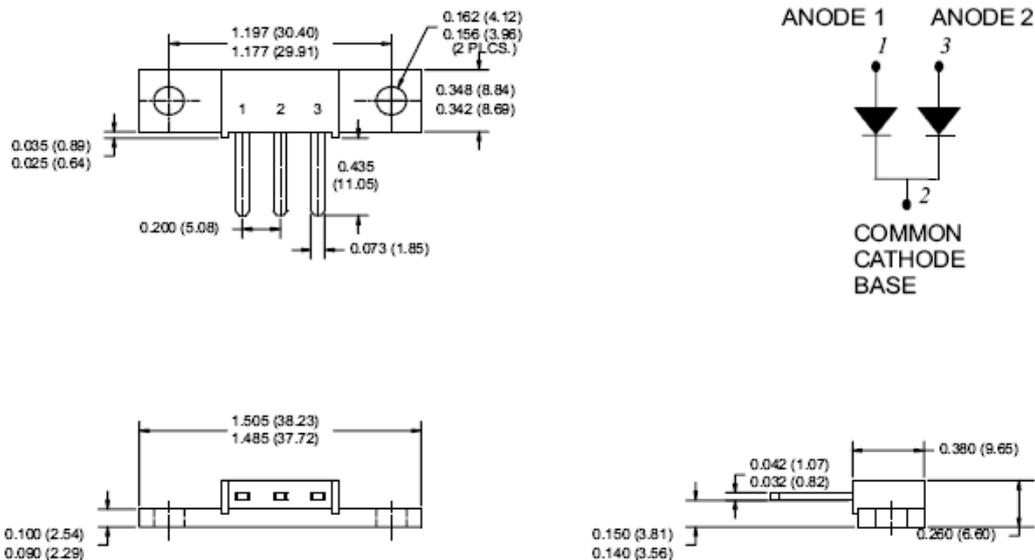
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### Features:

- 150°C T<sub>J</sub> 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

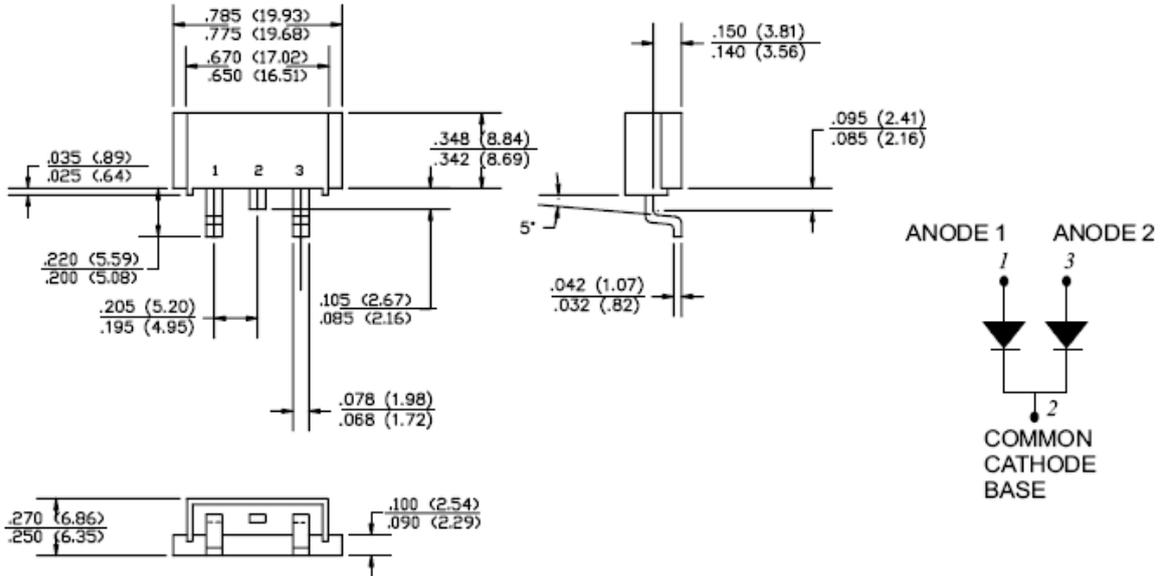
Case Styles		
<b>82CNQ030</b>  <b>PRM2</b>	<b>82CNQ030SL</b>  <b>PRM2-SL</b>	<b>82CNQ030SM</b>  <b>PRM2-SM</b>

Mechanical Dimensions: In Inches / mm

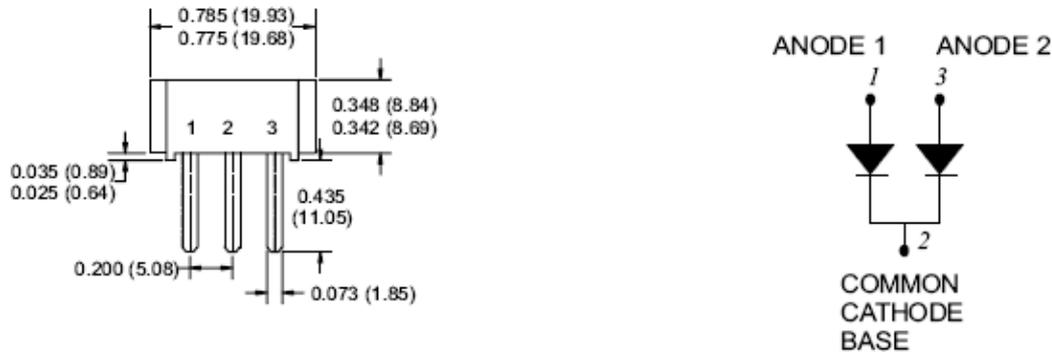


### PRM2

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



**PRM2-SL**



**PRM2-SM**

**MARKING, MOLDING RESIN**

Marking for 82CNQ030, 1<sup>st</sup> row SS YYWWL, 2<sup>nd</sup> row 82CNQ030, 3<sup>rd</sup> 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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**82CNQ030**

**Technical Data**  
Data Sheet N1061, Rev. -

**Green Products**

**Ordering Information:**

Device	Package	Terminals finish	Shipping
82CNQ030	PRM2	Nickel plated	48pcs / box
82CNQ030S	PRM2	Pure Sn dipped (dipped height 6-8 mm)	48pcs / box
82CNQ030SL	PRM2-SL	Pure Sn plated	100pcs / box
82CNQ030SM	PRM2-SM	Nickel plated	48pcs / box
82CNQ030SMS	PRM2-SM	Pure Sn dipped (dipped height 6-8 mm)	48pcs / box

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	-	30	V
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 119^\circ\text{C}$ , rectangular wave form	80	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	1060	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 $\mu\text{sec}$ Frequency limited by $T_J$ max. $V_A = 1.5 \times V_R$ typical	8	A

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**Electrical Characteristics:**

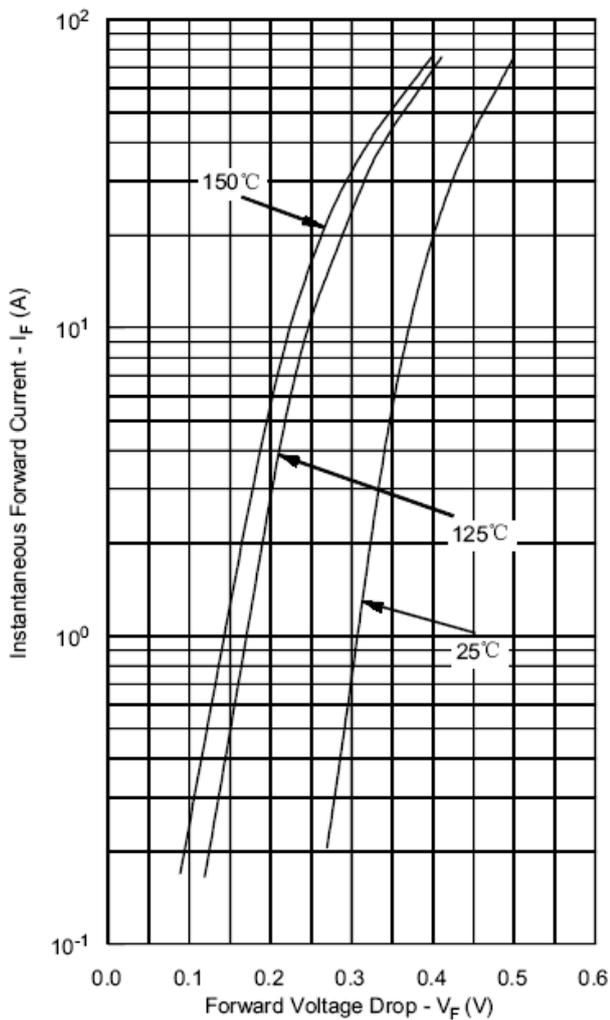
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (per leg) *	V <sub>F1</sub>	@ 40A, Pulse, T <sub>J</sub> = 25 °C @ 80A, Pulse, T <sub>J</sub> = 25 °C	0.45 -	0.47 0.55	V
	V <sub>F2</sub>	@ 40A, Pulse, T <sub>J</sub> = 125 °C @ 80A, Pulse, T <sub>J</sub> = 125 °C	0.34 -	0.37 0.47	V
Reverse Current (per leg) *	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 25 °C	0.18	5	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 125 °C	180	280	mA
Junction Capacitance (per leg)	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz	2900	3700	pF
Series Inductance (per leg)	L <sub>S</sub>	Measured lead to lead 5 mm from package body	5.5	-	nH
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs

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

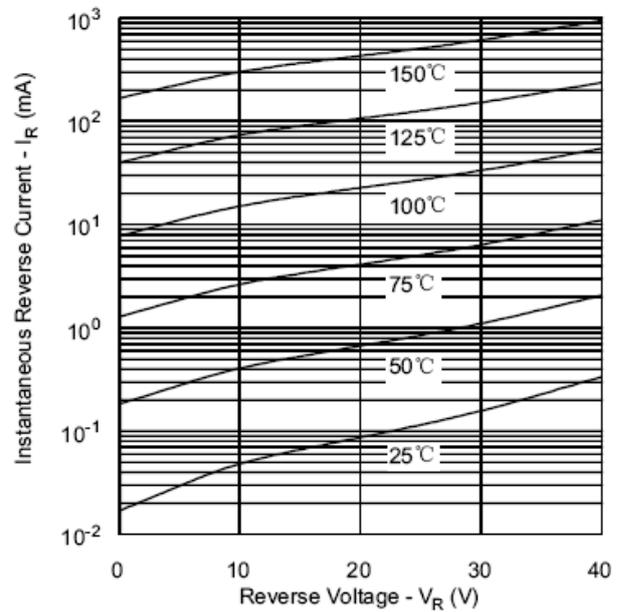
**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T <sub>J</sub>	-	-55 to +150	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case (per leg)	R <sub>θJC</sub>	DC operation	0.85	°C/W
Typical Thermal Resistance Junction to Case (per package)	R <sub>θJC</sub>	DC operation	0.42	°C/W
Typical Thermal Resistance, case to Heat Sink	R <sub>θcs</sub>	Mounting surface, smooth and greased	0.30	°C/W
Mounting Torque	T <sub>M</sub>	-	40(min)	Kg-cm
			58(max)	
Approximate Weight	wt	-	7.8	g
Case Style	PRM2 PRM2-SL PRM2-SM			

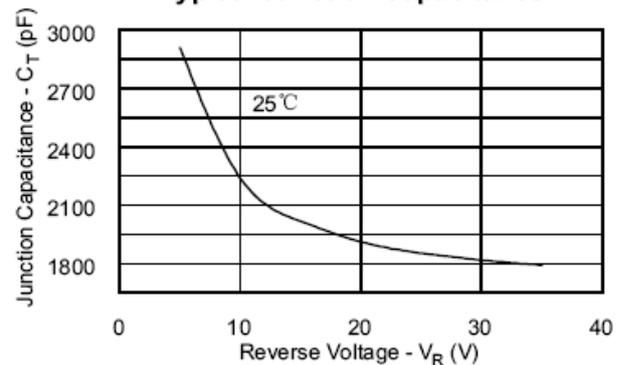
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**





**82CNQ030**

**Technical Data**  
**Data Sheet N1061, Rev. -**

**Green Products**

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