





# 85CNQ015 SCHOTTKY RECTIFIER

### **Applications**

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

### **Features**

- 125°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 electrical and life testing can be performed upon request



## **Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	-	15	V
Average Rectified Forward Current	I <sub>F (AV)</sub>	50% duty cycle @T <sub>C</sub> =78°C, rectangular wave form	40(Per Leg) 80(Per Device)	Α
Peak One Cycle Non-Repetitive Surge Current(Per leg)	I <sub>FSM</sub>	8.3 ms, half Sine pulse	1020	Α
Non-Repetitive Avalanche Energy (Peg leg)	Eas	T <sub>J</sub> =25℃,I <sub>AS</sub> =2A,L=4.5mH	9	mJ
Repetitive Avalanche Current(Peg leg)	I <sub>AR</sub>	Current decaying linearly to zero in 1 µsec Frequency limited by $T_J$ max. $V_A$ =1.5× $V_R$ typical	2	А

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## **Electrical Characteristics:**

Characteristics	Symbol	Condition	Тур.	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	0.34 -	0.375 0.45	V
	V <sub>F2</sub>	@ 40A, Pulse, T <sub>J</sub> = 125 °C @ 80A, Pulse, T <sub>J</sub> = 125 °C	-	0.32 0.42	V
Reverse Current (Per leg) *	I <sub>R1</sub>	@V <sub>R</sub> = rated VR T <sub>J</sub> = 25 °C	5	20	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated VR T <sub>J</sub> = 125 °C	-	1000	mA
Junction Capacitance (Per leg)	Ст	$@V_R = 5V, T_C = 25 \text{ °C}$ $f_{SIG} = 1MHz$	3300	3600	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs

<sup>\*</sup> Pulse width < 300 µs, duty cycle < 2%

## **Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units	
Junction Temperature	TJ	-	-55 to +125	°C	
Storage Temperature	T <sub>stg</sub>	-	-55 to +150	°C	
Typical Thermal Resistance Junction to Case (per leg)	$R_{ heta JC}$	DC operation	0.85	°C/W	
Typical Thermal Resistance Junction to Case (per package)	$R_{ heta JC}$	DC operation	0.42	°C/W	
Typical Thermal Resistance, case to Heat Sink	$R_{ heta cs}$	Mounting surface, smooth and greased	0.30	°C/W	
Mounting Torque	ТМ	-	40(min)	- Kg-cm	
			58(max)		
Approximate Weight	wt	-	7.8	g	
Case Style	PRM2 PRM2-SL PRM2-SM				

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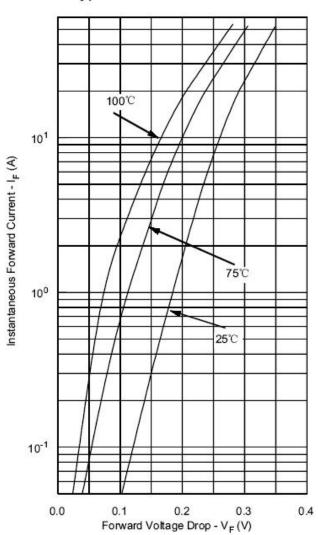




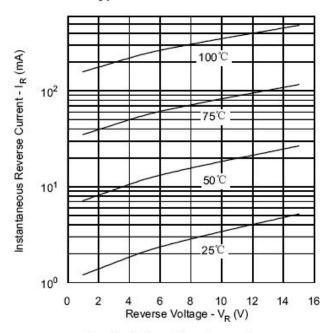


### **Ratings and Characteristics Curves**

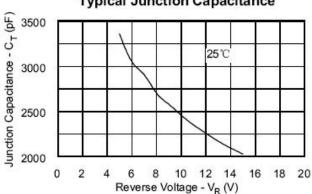
#### **Typical Forward Characteristics**



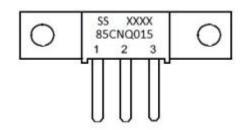
#### Typical Reverse Characteristics

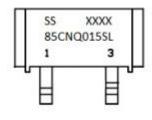


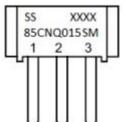
### **Typical Junction Capacitance**



## **Marking Diagram**







Where XXXX is YYWW

1st row SS YYWWL 2nd row 85CNQ015/SL/SM 3rd row 1 2 3 (pin) SS = SS YY = Year

WW = Year Week

Cautions: Molding resin

Epoxy resin UL:94V-0

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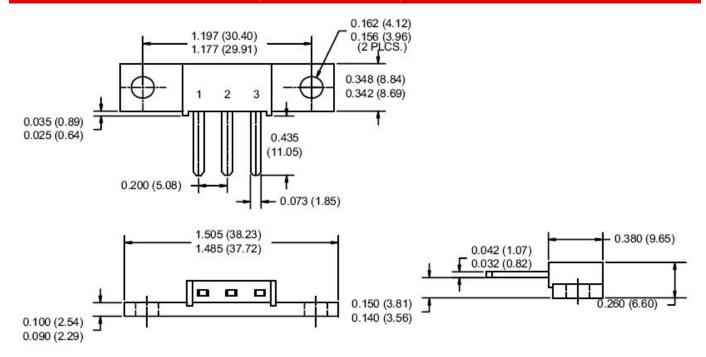




## **Ordering Information**

Device	Package	Terminals finish	Baseplate finish	Shipping
85CNQ015	PRM2	Nickel plated	Nickel plated	48pcs / box
85CNQ015S2	PRM2	Pure Sn dipped (dipped heigh 6-8mm)	Nickel plated	48pcs / box
85CNQ015SL	PRM2-SL	Pure Sn plated	Pure Sn plated	100pcs / box
85CNQ015SM	PRM2-SM	Nickel plated	Nickel plated	48pcs / box
85CNQ015SMS2	PRM2-SM	Pure Sn dipped (dipped heigh 6-8mm)	Nickel plated	48pcs / box

### **Mechanical Dimensions PRM2 (Inches/Millimeters)**



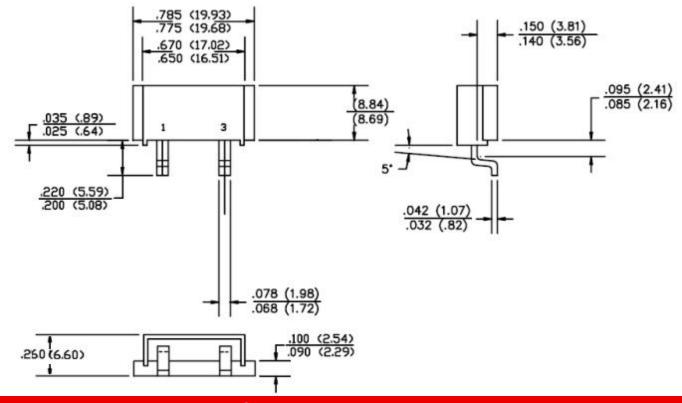
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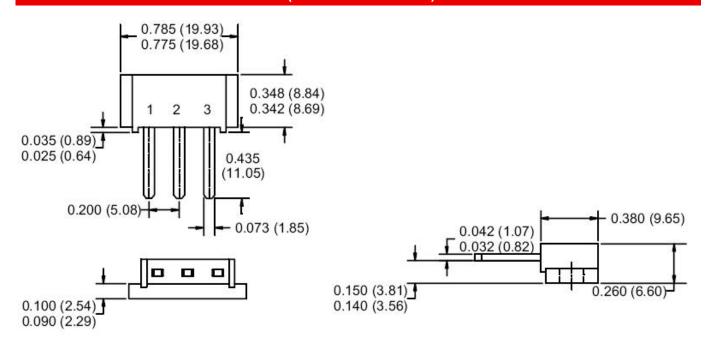




### **Mechanical Dimensions PRM2-SL (Inches/Millimeters)**



### Mechanical Dimensions PRM2-SM (Inches/Millimeters)



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