

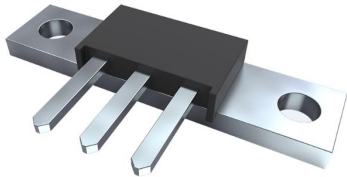

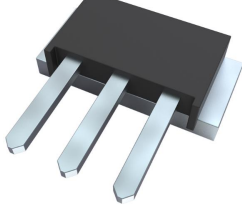
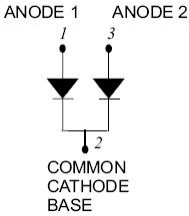
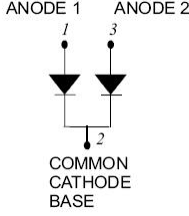
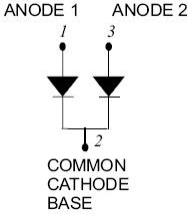
## 89CNQ135/89CNQ150 SCHOTTKY RECTIFIER

### Applications

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

### Features

- 175°C T<sub>J</sub> operation
- Ultra low reverse leakage current
- Soft reverse recovery at low and high temperature
- Low forward voltage drop
- Low power loss, high efficiency
- High surge capacity
- Guard ring for enhanced ruggedness and long term reliability
- Guaranteed reverse avalanche characteristics
- 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

89CNQ...	89CNQ...SL	89CNQ...SM
		
		
<b>PRM2</b>	<b>PRM2-SL</b>	<b>PRM2-SM</b>

### Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	$V_{RRM}$	-	135(89CNQ135) 150(89CNQ150)	V
Working Peak Reverse Voltage	$V_{RWM}$			
DC Blocking Voltage	$V_R$			
Average Rectified Forward Current	$I_F (AV)$	50% duty cycle @T <sub>C</sub> =132°C, rectangular wave form	40(Per Leg) 80(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	708	A

**Electrical Characteristics:**

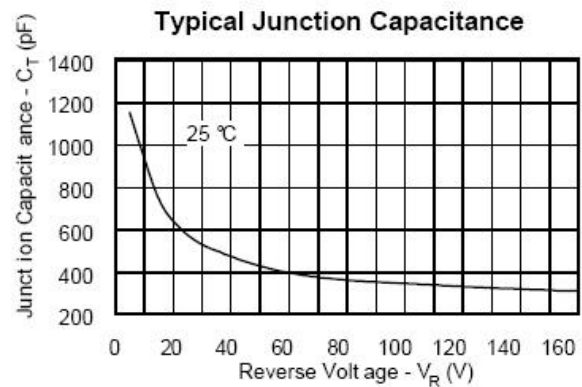
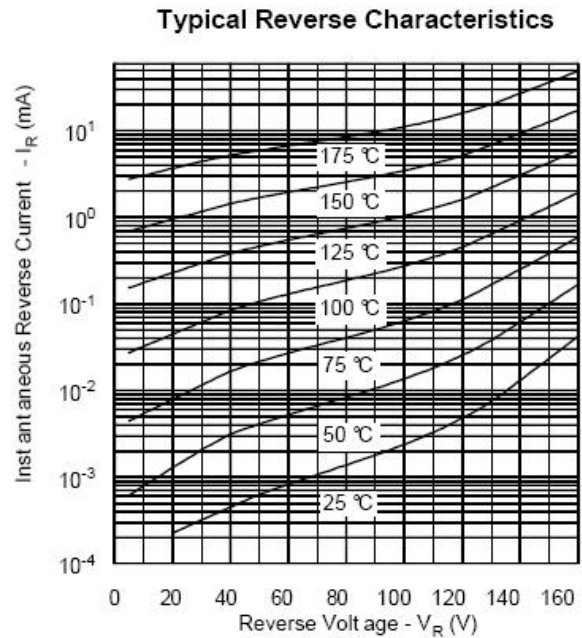
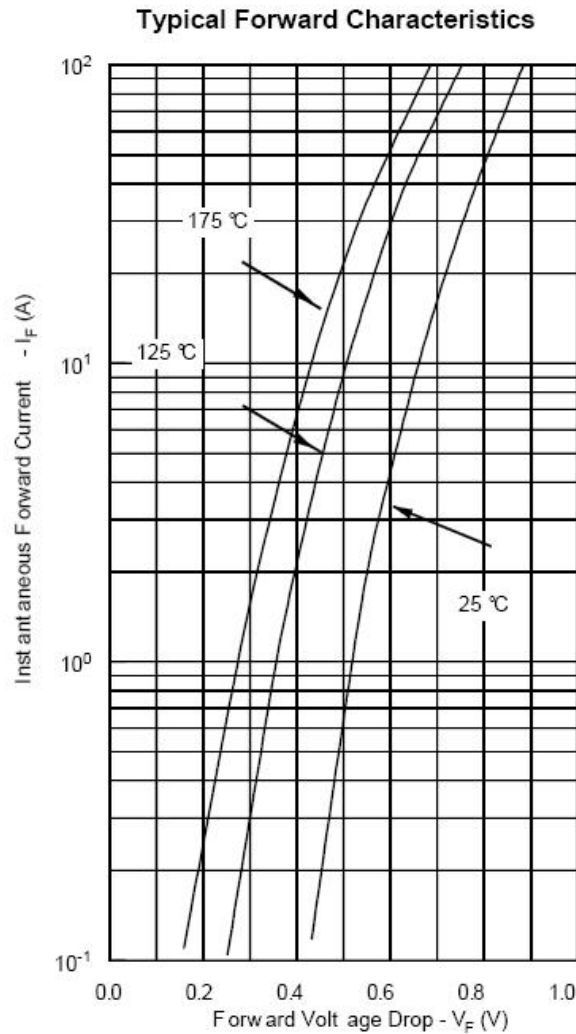
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (Per leg) *	V <sub>F1</sub>	@ 40A, Pulse, T <sub>J</sub> = 25 °C	0.82	0.99	V
		@ 80A, Pulse, T <sub>J</sub> = 25 °C	0.88	1.14	
	V <sub>F2</sub>	@ 40A, Pulse, T <sub>J</sub> = 125 °C	0.62	0.69	V
		@ 80A, Pulse, T <sub>J</sub> = 125 °C	0.72	0.78	
Reverse Current (Per leg) *	I <sub>R1</sub>	@V <sub>R</sub> = rated VR T <sub>J</sub> = 25 °C	0.02	1.5	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated VR T <sub>J</sub> = 125 °C	4	21	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, VSIG=50mV(p-p)	1200	1400	pF

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

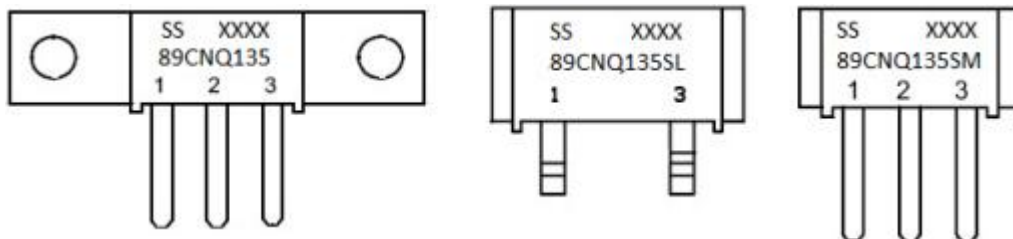
**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T <sub>J</sub>	-	-55 to +175	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +175	°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			

**Ratings and Characteristics Curves**



**Marking Diagram**



Where XXXX is YYWW

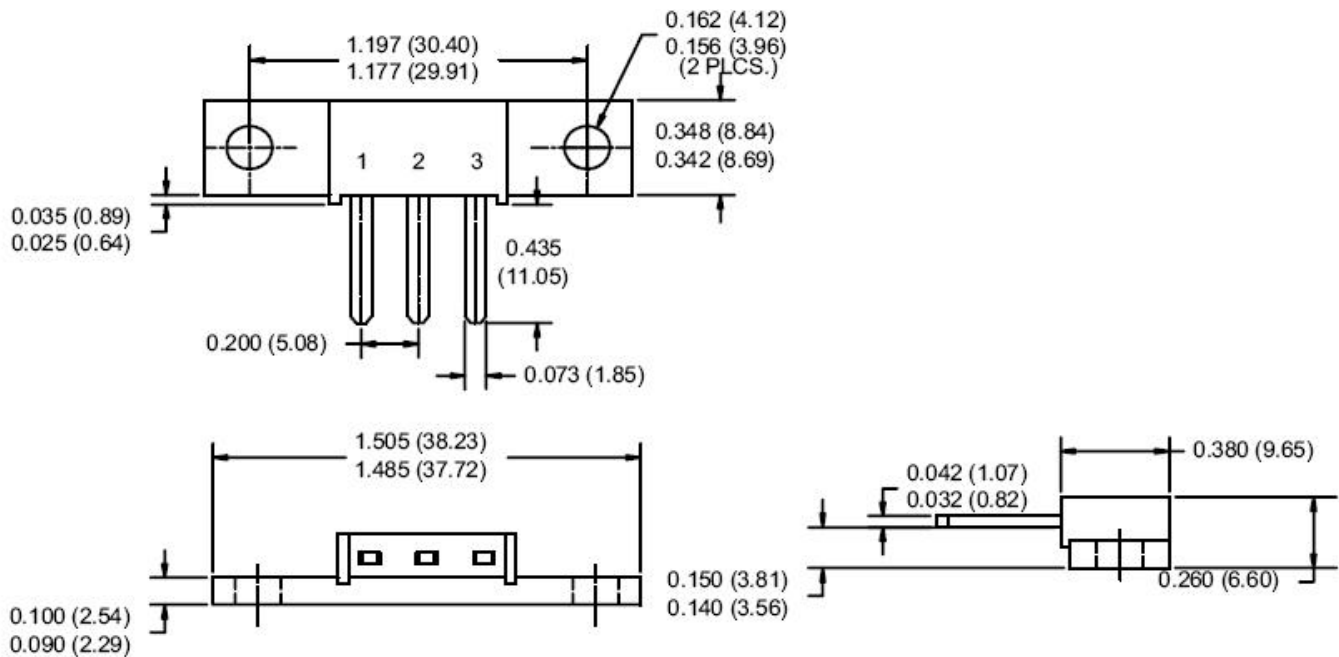
1st row SS YYWWL  
2nd row 89CNQ135/SL/SM  
3rd row 1 2 3 (pin)  
SS = SS  
YY = Year  
WW = Week

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

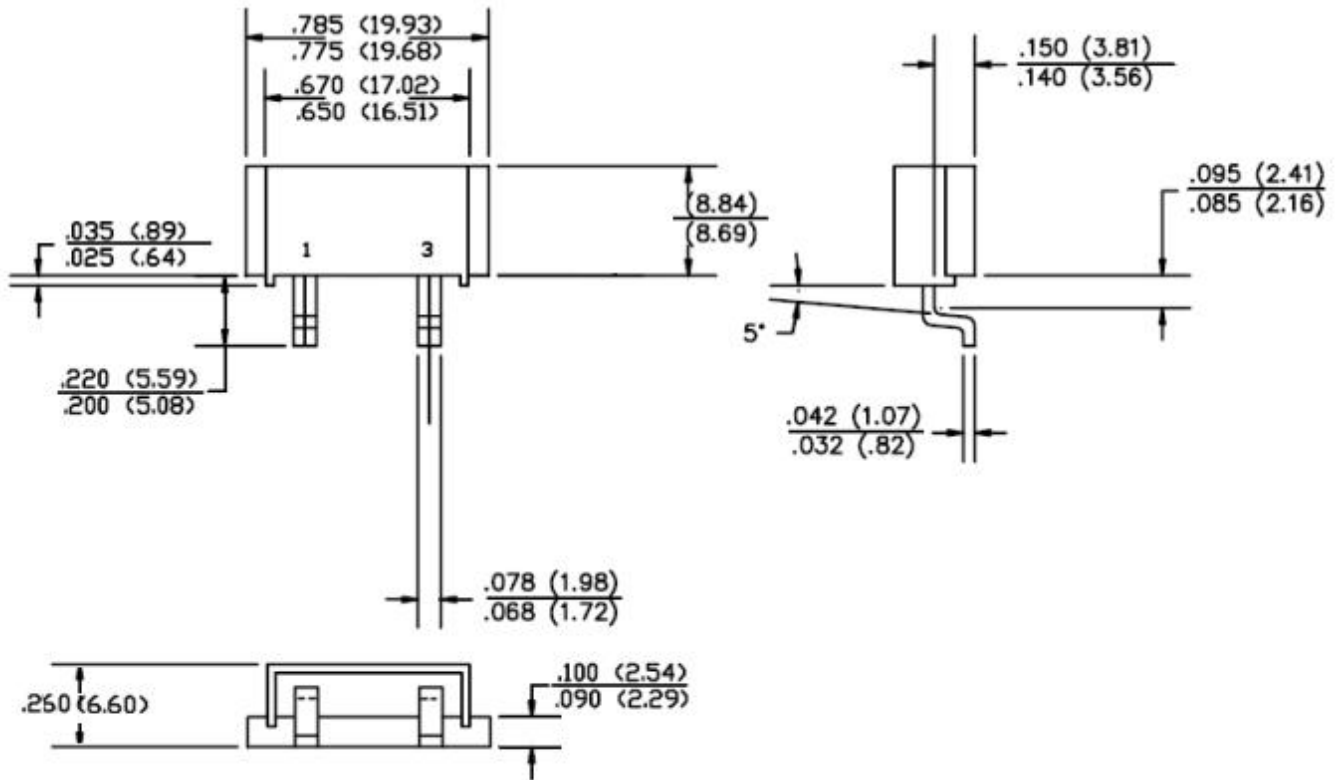
**Ordering Information**

Device	Package	Terminals finish	Baseplate finish	Shipping
89CNQ135	PRM2	Nickel plated	Nickel plated	48pcs / box
89CNQ135S2	PRM2	Pure Sn dipped (dipped heigh 6-8mm)	Nickel plated	48pcs / box
89CNQ135SL	PRM2-SL	Pure Sn plated	Pure Sn plated	100pcs / box
89CNQ135SM	PRM2-SM	Nickel plated	Nickel plated	48pcs / box
89CNQ135SMS2	PRM2-SM	Pure Sn dipped (dipped heigh 6-8mm)	Nickel plated	48pcs / box
89CNQ150	PRM2	Nickel plated	Nickel plated	48pcs / box
89CNQ150S2	PRM2	Pure Sn dipped (dipped heigh 6-8mm)	Nickel plated	48pcs / box
89CNQ150SL	PRM2-SL	Pure Sn plated	Pure Sn plated	100pcs / box
89CNQ150SM	PRM2-SM	Nickel plated	Nickel plated	48pcs / box
89CNQ150SMS2	PRM2-SM	Pure Sn dipped (dipped heigh 6-8mm)	Nickel plated	48pcs / box

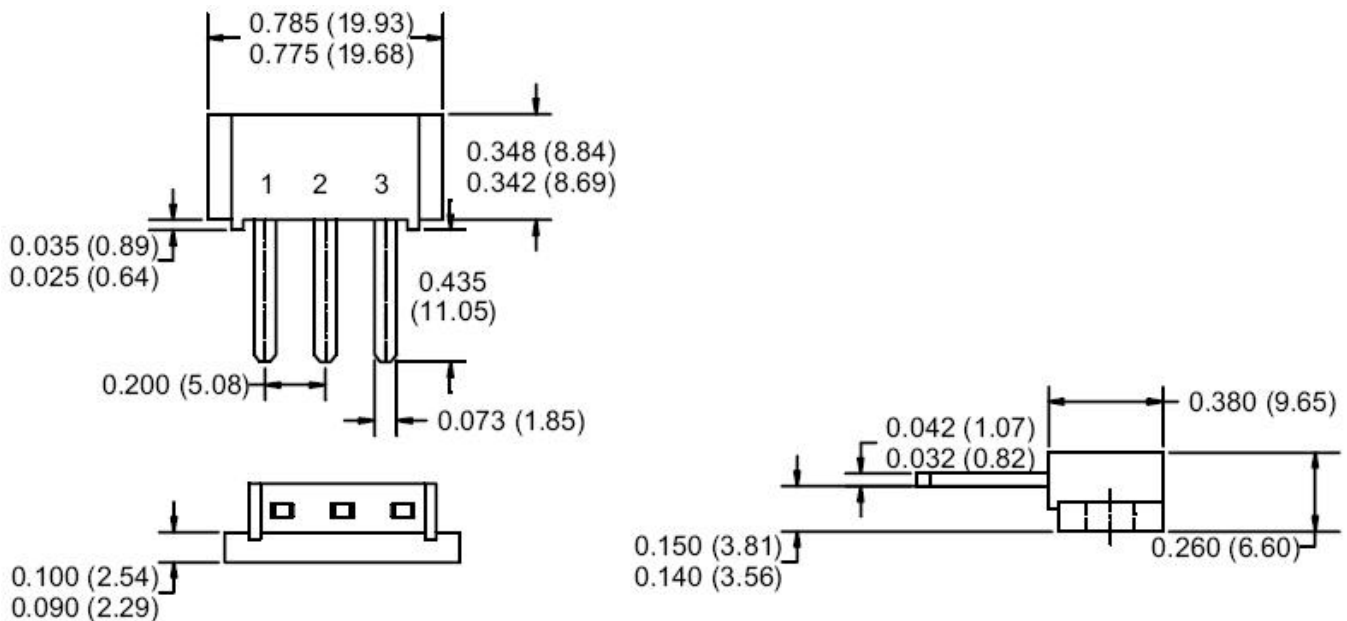
**Mechanical Dimensions PRM2 (Inches/Millimeters)**



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



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





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