

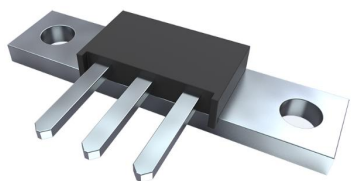

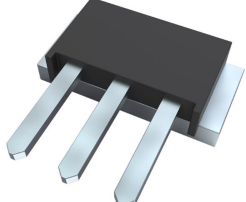
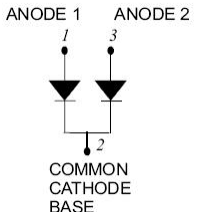
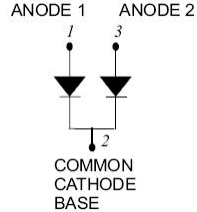
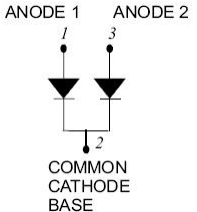
89CNQ135/89CNQ150 SCHOTTKY RECTIFIER

Applications

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

Features

- 175°C T_J 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
		
		
PRM2	PRM2-SL	PRM2-SM

Maximum Ratings (limiting values, at 25 °C unless otherwise specified)

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 _C =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 _{F1}	@ 40A, Pulse, T _J = 25 °C	0.81	0.99	V
		@ 80A, Pulse, T _J = 25 °C	0.89	1.14	
	V _{F2}	@ 40A, Pulse, T _J = 125 °C	0.70	0.77	V
		@ 80A, Pulse, T _J = 125 °C	0.77	0.80	
Reverse Current (Per leg) *	I _{R1}	@V _R = rated VR T _J = 25 °C	0.02	1.5	mA
	I _{R2}	@V _R = rated VR T _J = 125 °C	4	21	mA
Junction Capacitance (Per leg)	C _T	@V _R = 5V, T _C = 25 °C f _{SIG} = 1MHz, VSIG=50mV(p-p)	1000	1400	pF

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T _J	-	-55 to +175	°C
Storage Temperature	T _{stg}	-	-55 to +175	°C
Typical Thermal Resistance Junction to Case (per leg)	R _{θJC}	DC operation	0.5	°C/W
Typical Thermal Resistance Junction to Case (per package)	R _{θJC}	DC operation	0.25	°C/W
Typical Thermal Resistance, case to Heat Sink	R _{θcs}	Mounting surface, smooth and greased	0.21	°C/W
Mounting Torque	T _M	-	40(min)	Kg-cm
			58(max)	
Case Style	PRM2 PRM2-SL PRM2-SM			

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

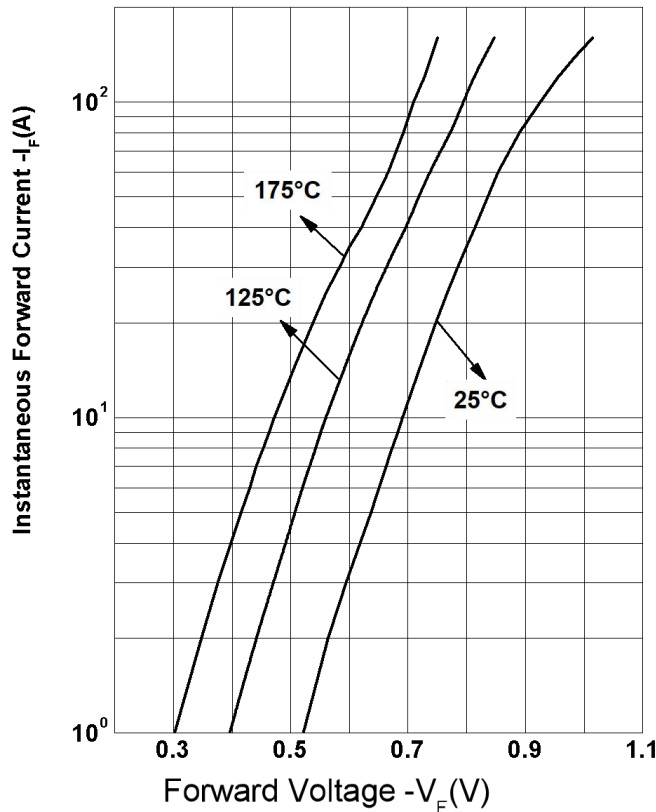


Figure 2
Typical Reverse Characteristics

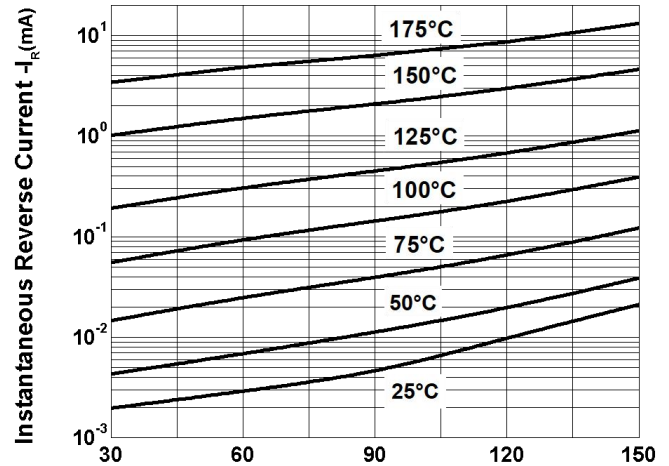
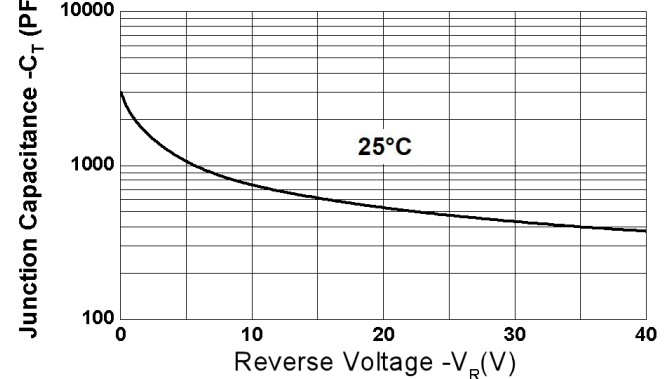
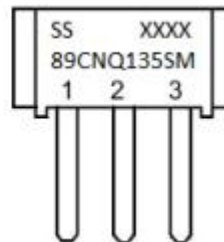
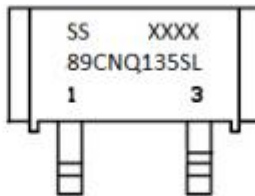
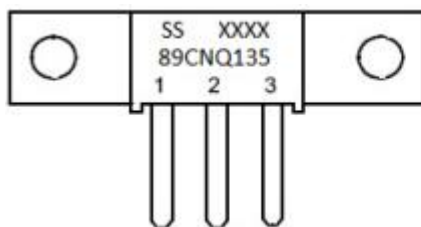


Figure 3
Typical Junction Capacitance



Marking Diagram



Where XXXX is YYWW

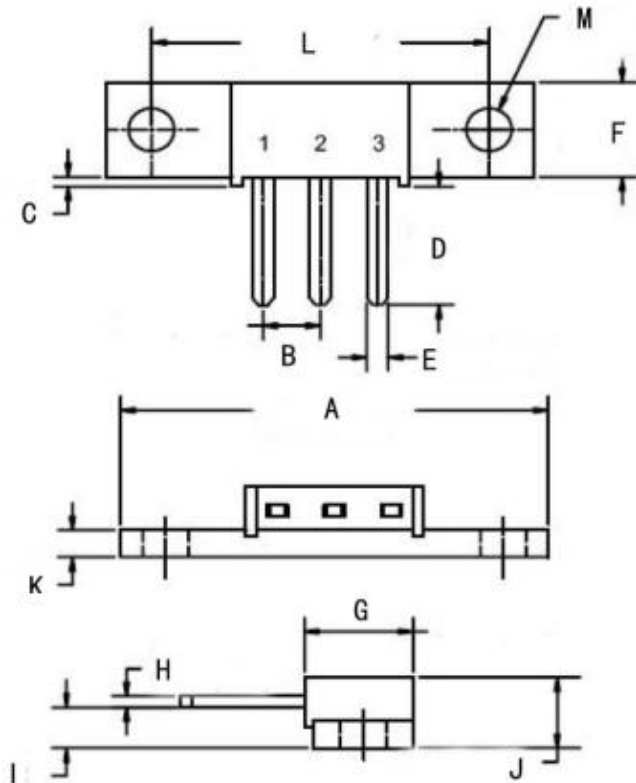
1st row SS YYWWL
2nd row 89CNQ135/SL/SM
3rd row 1 2 3 (pin)
SS = SS
YY = Year
WW = Week

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

Ordering Information

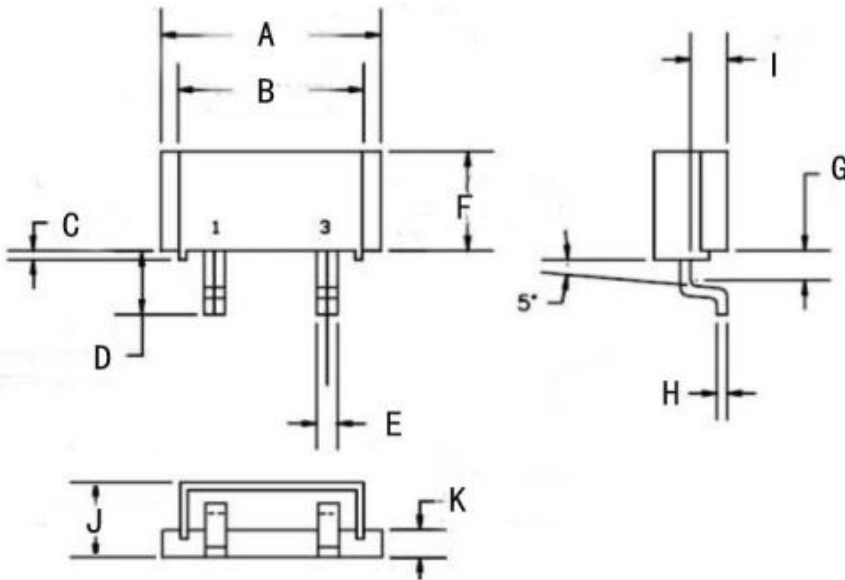
Device	Package	Approximate Weight(g)	Terminals finish	Base plate finish	Shipping
89CNQ135	PRM2	8.6	Nickel plated	Nickel plated	48pcs / box
89CNQ135S2	PRM2	8.6	Pure Sn dipped (dipped height 6-8mm)	Nickel plated	48pcs / box
89CNQ135SL	PRM2-SL	5.3	Pure Sn plated	Pure Sn plated	100pcs / box
89CNQ135SM	PRM2-SM	5.6	Nickel plated	Nickel plated	48pcs / box
89CNQ135SMS2	PRM2-SM	5.6	Pure Sn dipped (dipped height 6-8mm)	Nickel plated	48pcs / box
89CNQ150	PRM2	8.6	Nickel plated	Nickel plated	48pcs / box
89CNQ150S2	PRM2	8.6	Pure Sn dipped (dipped height 6-8mm)	Nickel plated	48pcs / box
89CNQ150SL	PRM2-SL	5.3	Pure Sn plated	Pure Sn plated	100pcs / box
89CNQ150SM	PRM2-SM	5.6	Nickel plated	Nickel plated	48pcs / box
89CNQ150SMS2	PRM2-SM	5.6	Pure Sn dipped (dipped height 6-8mm)	Nickel plated	48pcs / box

Mechanical Dimensions PRM2 (Inches/Millimeters)



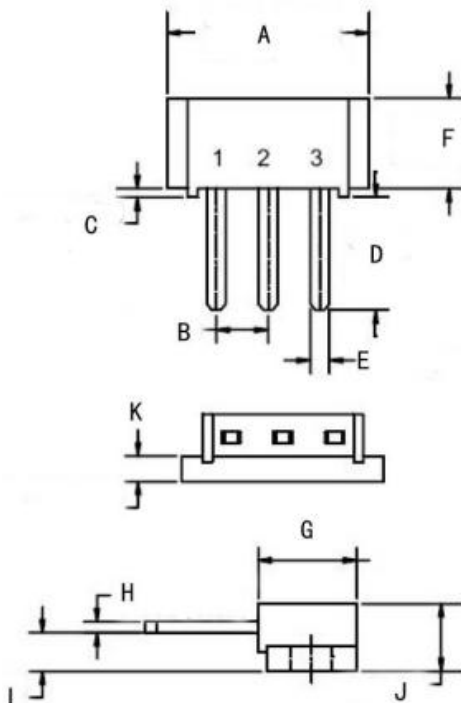
SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	37.72	38.23	1.485	1.506
B	5.08		0.200	
C	0.62	1.02	0.024	0.040
D	10.38	12.98	0.408	0.511
E	1.78	2.28	0.070	0.090
F	8.46	9.06	0.333	0.357
G	9.24	9.85	0.363	0.388
H	0.75	1.15	0.029	0.046
I	3.19	4.19	0.125	0.165
J	6.95	7.55	0.273	0.298
K	2.40	2.60	0.094	0.103
L	29.51	30.40	1.161	1.197
M	3.75	4.33	0.147	0.171

Mechanical Dimensions PRM2-SL (Inches/Millimeters)



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	19.70	20.30	0.776	0.799
B	16.51	17.02	0.650	0.670
C	0.62	1.02	0.024	0.040
D	4.97	5.97	0.196	0.235
E	1.78	2.28	0.070	0.090
F	8.46	9.06	0.333	0.357
G	2.04	2.54	0.080	0.100
H	0.75	1.15	0.029	0.045
I	3.19	4.19	0.125	0.165
J	6.95	7.55	0.274	0.297
K	2.21	2.71	0.087	0.106

Mechanical Dimensions PRM2-SM (Inches/Millimeters)



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	19.70	20.30	0.776	0.799
B	5.08		0.200	
C	0.62	1.02	0.024	0.040
D	10.38	12.98	0.408	0.511
E	1.78	2.28	0.070	0.090
F	8.46	9.06	0.333	0.357
G	9.24	9.85	0.363	0.388
H	0.75	1.15	0.029	0.045
I	3.19	4.19	0.125	0.165
J	6.95	7.55	0.273	0.298
K	2.21	2.71	0.087	0.106



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