



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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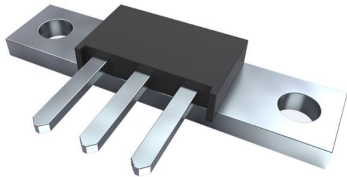
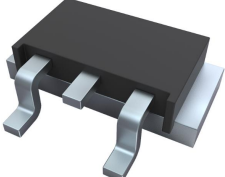
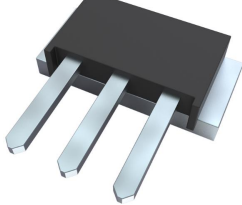
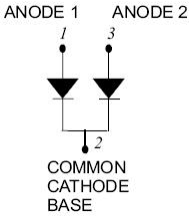
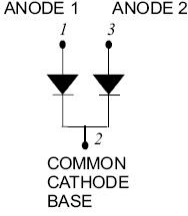
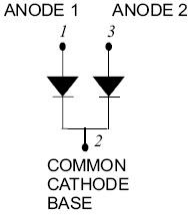
81CNQ SERIES SCHOTTKY RECTIFIER

Applications

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

Features

- 175°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 electrical and life testing can be performed upon request

81CNQ...	81CNQ...SL	81CNQ...SM
		
		
PRM2	PRM2-SL	PRM2-SM

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	-	35(81CNQ035) 40(81CNQ040) 45(81CNQ045)	V
Average Rectified Forward Current	I _{F(AV)}	50% duty cycle @T _C =141°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	950	A
Non-Repetitive Avalanche Energy (Per leg)	E _{AS}	T _J =25°C, I _{AS} =8A, L=1.7mH	54	mJ
Repetitive Avalanche Current(Per leg)	I _{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T _J max. V _A =1.5×V _R typical	8	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (Per leg) *	V _{F1}	@ 40A, Pulse, T _J = 25 °C @ 80A, Pulse, T _J = 25 °C	0.54 0.64	0.60 0.74	V
	V _{F2}	@ 40A, Pulse, T _J = 125 °C @ 80A, Pulse, T _J = 125 °C	0.46 0.56	0.54 0.66	V
Reverse Current (Per leg) *	I _{R1}	@V _R = rated V _R T _J = 25 °C	0.03	5	mA
	I _{R2}	@V _R = rated V _R T _J = 125 °C	25	45	mA
Junction Capacitance (Per leg)	C _T	@V _R = 5V, T _C = 25 °C f _{SIG} = 1MHz	2200	2600	pF
Series Inductance (Per leg)	L _S	Measured lead to lead 5 mm from package body	5.5	-	nH
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs

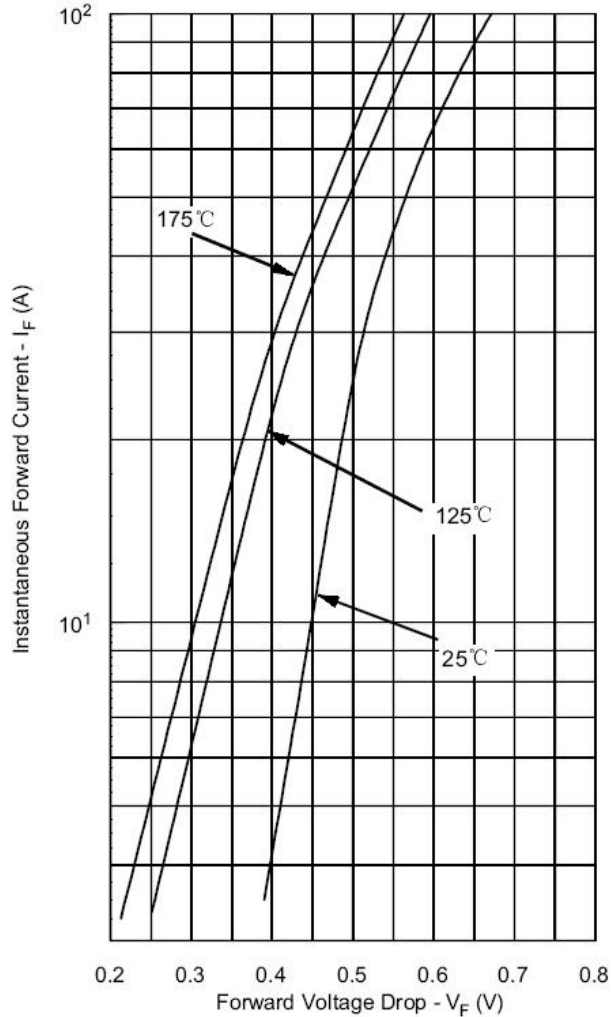
* Pulse width < 300 μs, duty cycle < 2%

Thermal-Mechanical Specifications:

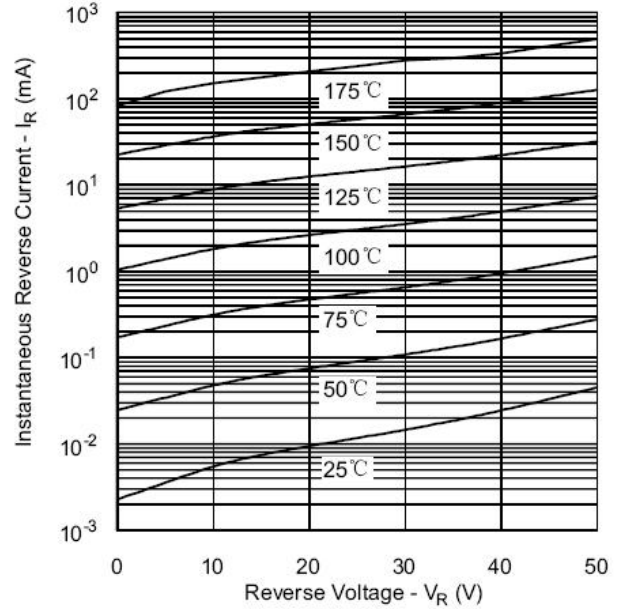
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T _J	-	-55 to +175	°C
Storage Temperature	T _{stg}	-	-55 to +175	°C
Typical Thermal Resistance Junction to Case (per leg)	R _{θJC}	DC operation	0.85	°C/W
Typical Thermal Resistance Junction to Case (per package)	R _{θJC}	DC operation	0.42	°C/W
Typical Thermal Resistance, case to Heat Sink	R _{θcs}	Mounting surface, smooth and greased	0.30	°C/W
Mounting Torque	TM	-	40(min)	Kg-cm
			58(max)	
Approximate Weight	wt	-	7.8	g
Case Style	PRM2 PRM2-SL PRM2-SM			

Ratings and Characteristics Curves

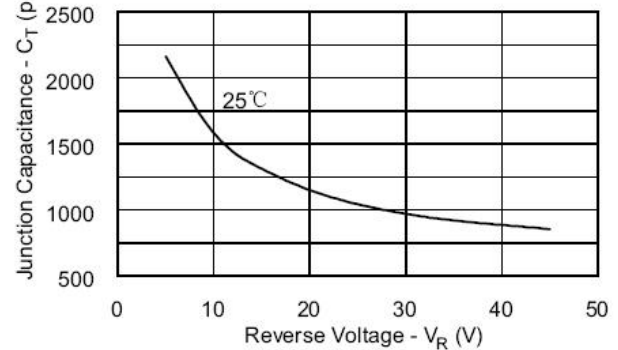
Typical Forward Characteristics



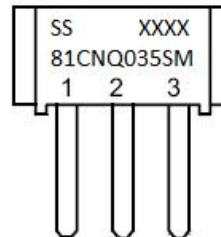
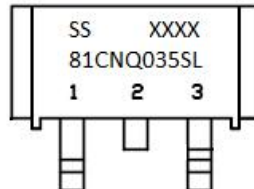
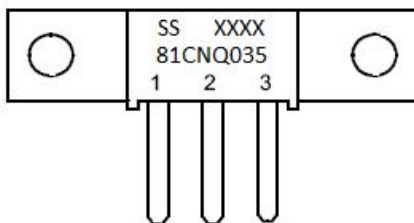
Typical Reverse Characteristics



Typical Junction Capacitance



Marking Diagram



Where XXXX is YYWW

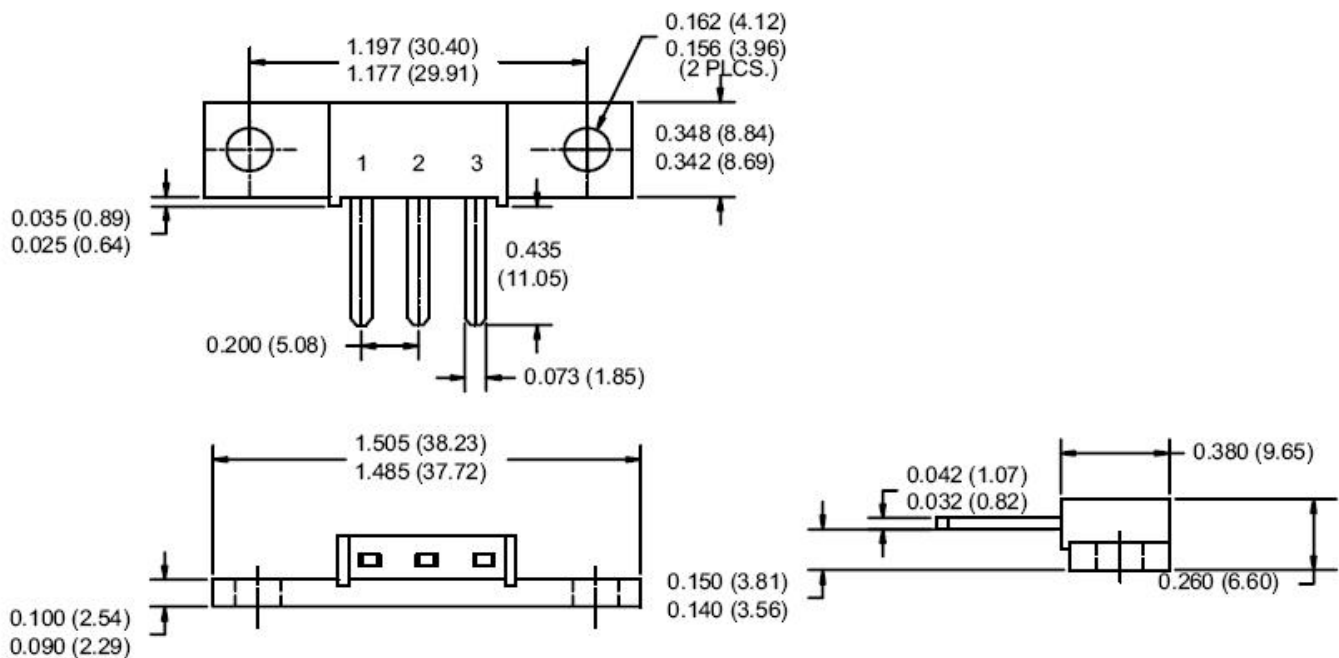
1st row SS YYWWL
2nd row 81CNQ035/SL/SM
3rd row 1 2 3 (pin)
SS = SS
YY = Year
WW = Week

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

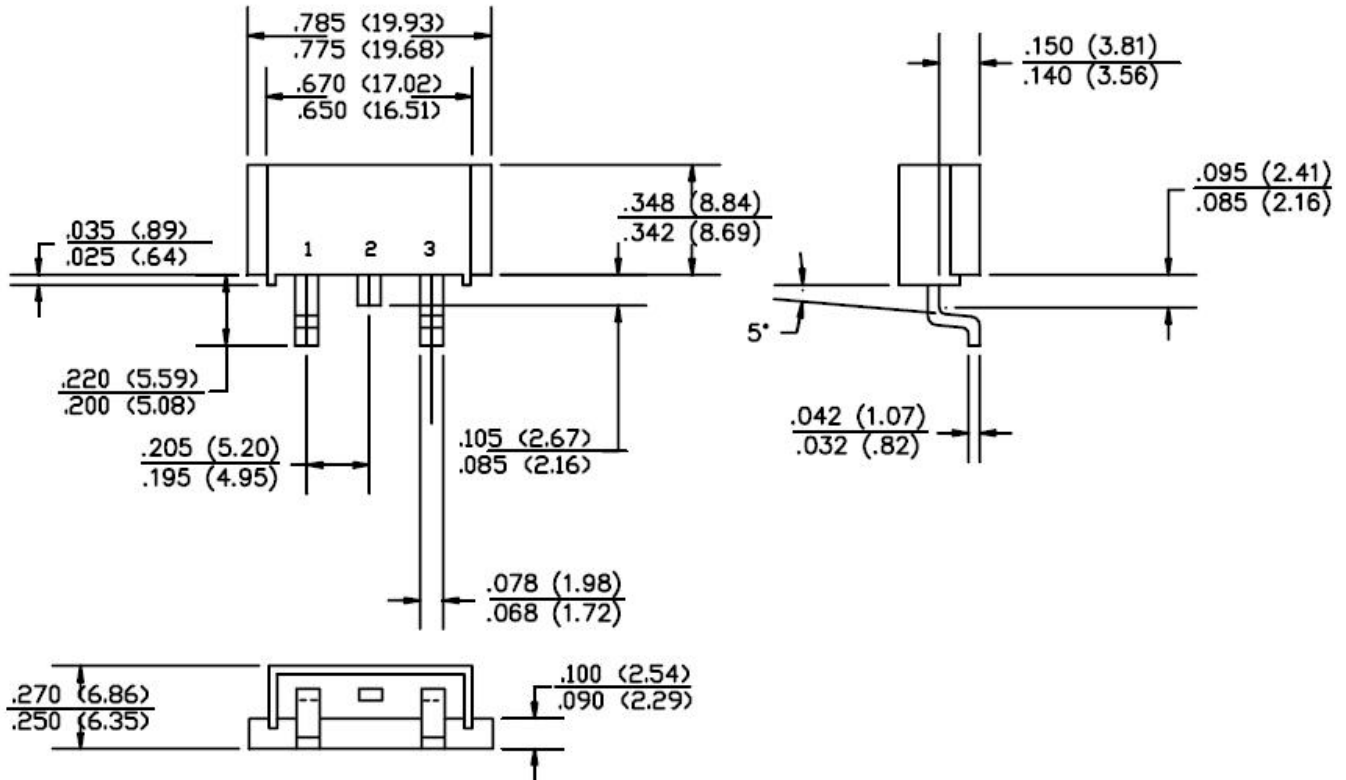
Ordering Information

Device	Package	Terminals finish	Shipping
81CNQ035	PRM2	Nickel plated	48pcs / box
81CNQ035S2	PRM2	Pure Sn dipped	48pcs / box
81CNQ040	PRM2	Nickel plated	48pcs / box
81CNQ040S2	PRM2	Pure Sn dipped	48pcs / box
81CNQ045	PRM2	Nickel plated	48pcs / box
81CNQ045S2	PRM2	Pure Sn dipped	48pcs / box
81CNQ035SL	PRM2-SL	Nickel plated	100pcs / box
81CNQ040SL	PRM2-SL	Nickel plated	100pcs / box
81CNQ045SL	PRM2-SL	Nickel plated	100pcs / box
81CNQ035SM	PRM2-SM	Nickel plated	48pcs / box
81CNQ035SMS2	PRM2-SM	Pure Sn dipped	48pcs / box
81CNQ040SM	PRM2-SM	Nickel plated	48pcs / box
81CNQ040SMS2	PRM2-SM	Pure Sn dipped	48pcs / box
81CNQ045SM	PRM2-SM	Nickel plated	48pcs / box
81CNQ045SMS2	PRM2-SM	Pure Sn dipped	48pcs / box

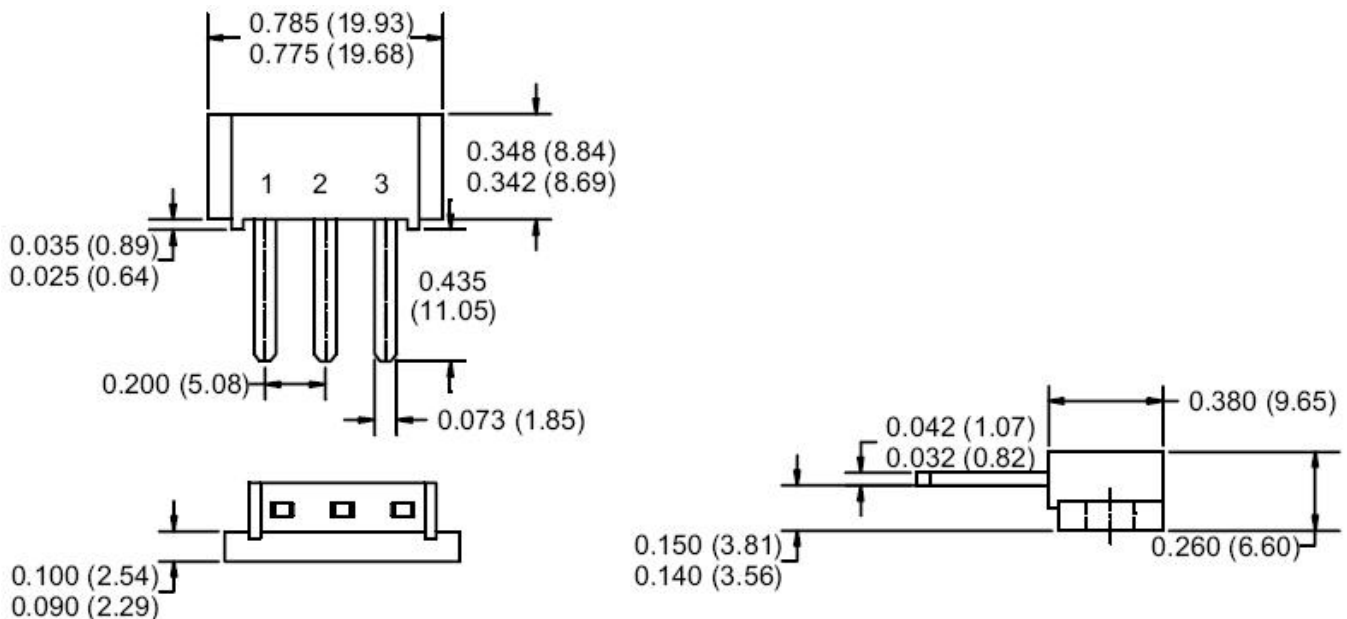
Mechanical Dimensions PRM2 (Inches/Millimeters)



Mechanical Dimensions PRM2-SL (Inches/Millimeters)



Mechanical Dimensions PRM2-SM (Inches/Millimeters)





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