Technical Data *Green Products*

Data Sheet N1135, Rev. -

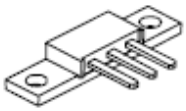
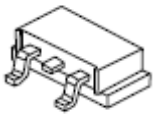
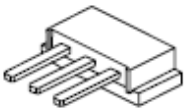
ULTRA LOW REVERSE LEAKAGE PLASTIC POWER SCHOTTKY RECTIFIER (135V-150V, 80A)

Applications:

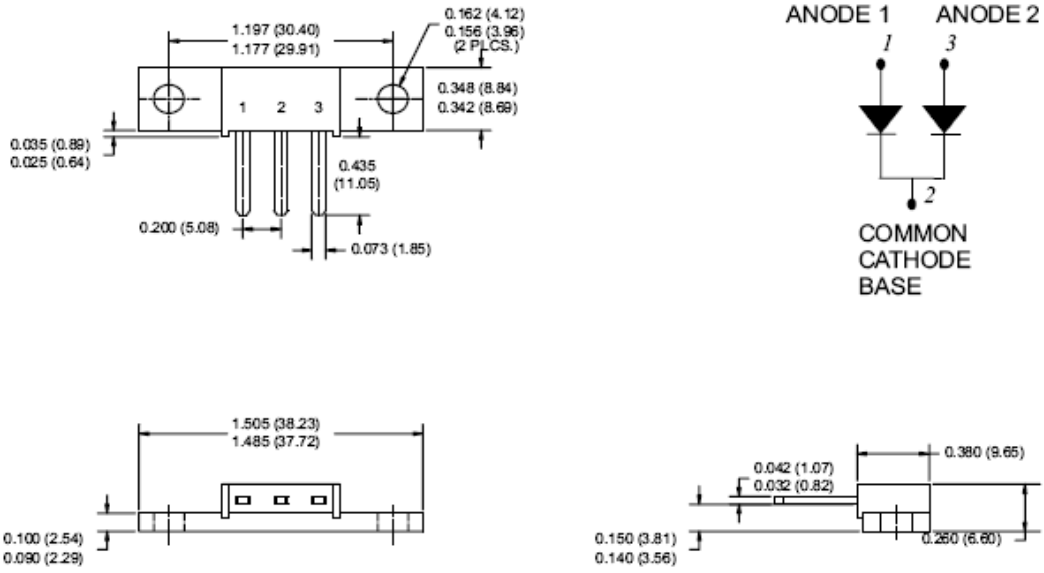
● Switching power supply ● Converters ● Free-Wheeling diodes ● Reverse battery protection

Features:

- 175℃ 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 testing can be offered upon request

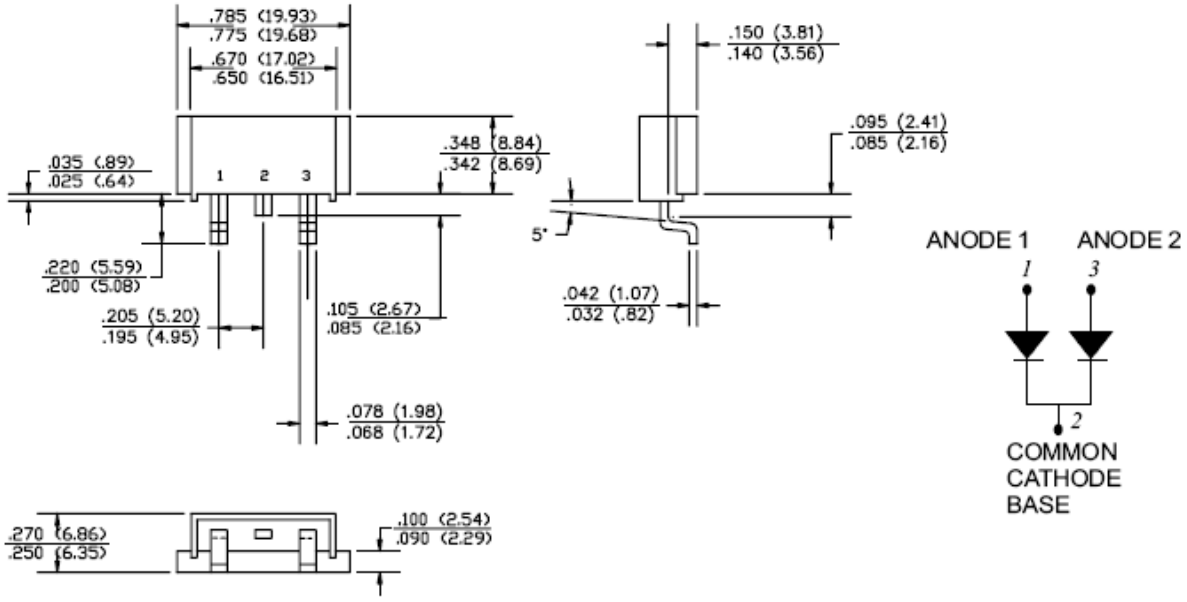
Case Styles		
89CNQ…	**89CNQ…SL**	**89CNQ…SM**
		
PRM2	**PRM2-SL**	**PRM2-SM**

Mechanical Dimensions: In Inches / mm

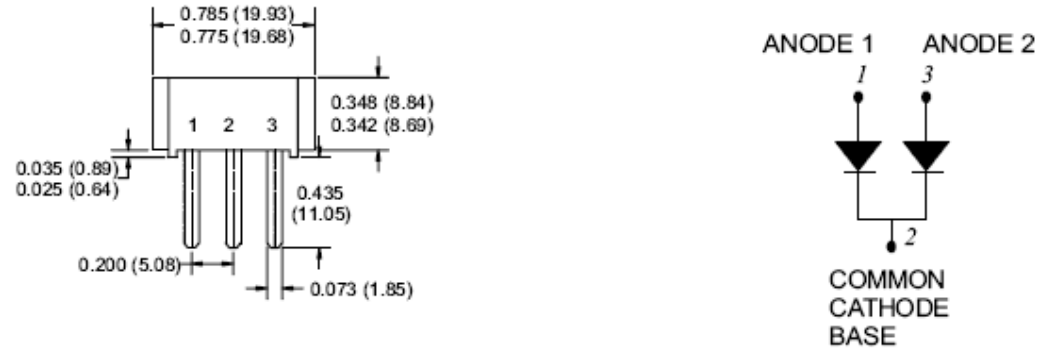


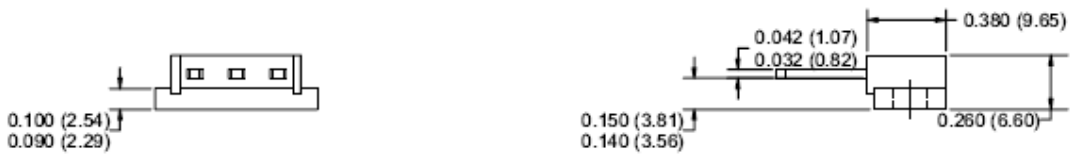
PRM2

Technical Data *Green Products*
Data Sheet N1135, Rev. -



PRM2-SL





PRM2-SM

MARKING, MOLDING RESIN

Marking for 89CNQ135/SL/SM, 1st row SS YYWWL, 2nd row 89CNQ135/SL/SM, 3rd 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

89CNQ SERIES

Technical Data
Data Sheet N1135, Rev. -

Green Products

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	135(89CNQ135) 150(89CNQ150)	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_C =132°C, rectangular wave form	80	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	Max.	Units
Forward Voltage Drop (per leg) *	V_{F1}	@ 40A, Pulse, T_J = 25 °C @ 80A, Pulse, T_J = 25 °C	0.99 1.14	V
	V_{F2}	@ 40A, Pulse, T_J = 125 °C @ 80A, Pulse, T_J = 125 °C	0.69 0.78	V
Reverse Current (per leg) *	I_{R1}	@V_R = rated V_R T_J = 25 °C	1.5	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	21	mA
Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz, V_{SIG}=50mV(p-p)	1400	pF
Typical 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 < 300μs, Duty Cycle <2%

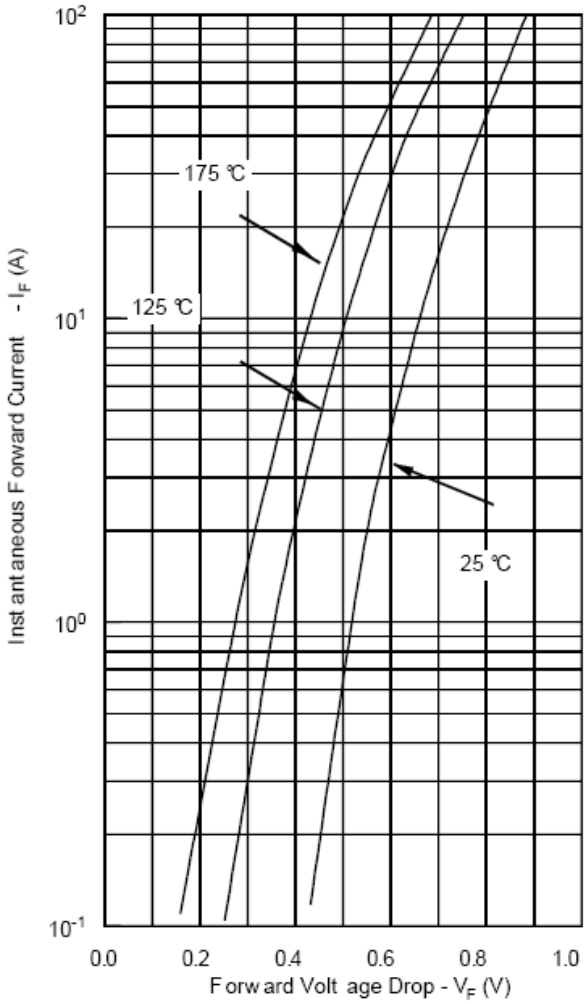
Thermal-Mechanical Specifications:

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)	$R_{\theta JC}$	DC operation	0.85	°C/W
Typical Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	0.42	°C/W
Typical Thermal Resistance, case to Heat Sink	$R_{\theta cs}$	Mounting surface, smooth and greased	0.30	°C/W
Mounting Torque	T_M	-	40(min) 58(max)	Kg-cm
Approximate Weight	wt	-	7.8	g
Case Style	PRM2 PRM2-SL PRM2-SM			

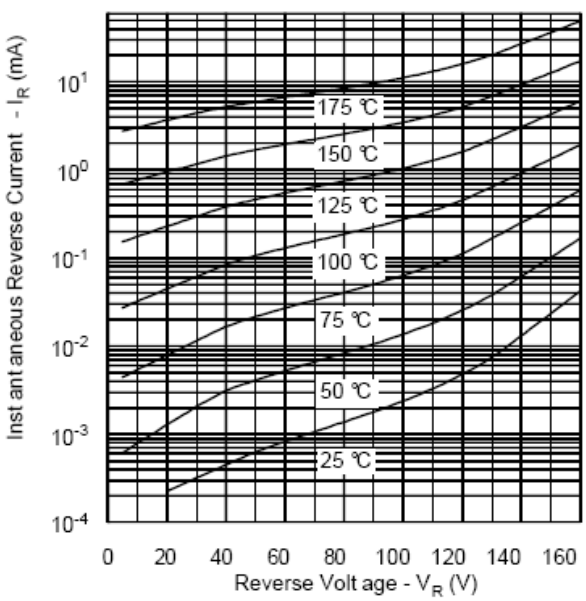
Technical Data
Data Sheet N1135, Rev. -

Green Products

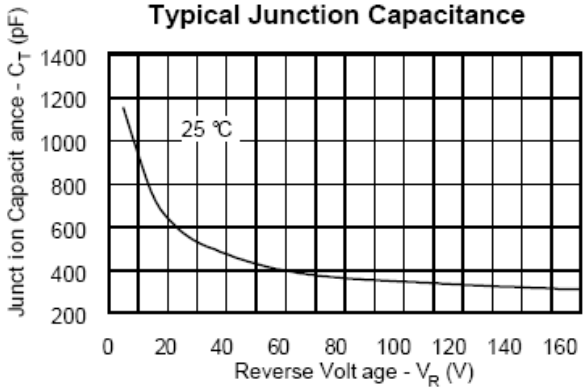
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



89CNQ SERIES

Technical Data *Green Products*

Data Sheet N1135, Rev. -

DISCLAIMER:

1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC - Sangdest Microelectronics (Nanjing) Co., Ltd sales department for the latest version of the datasheet(s).

2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment , and safety equipment) , safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement .

3- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC - Sangdest Microelectronics (Nanjing) Co., Ltd assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.

4- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.

5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.

7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..