Technical Data *Green Products*
Data Sheet N1235, Rev. -

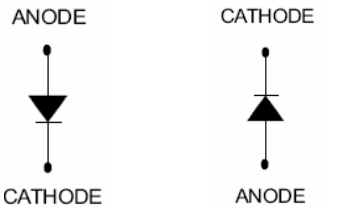
125NQ015/R-1 SCHOTTKY RECTIFIER

Applications:

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

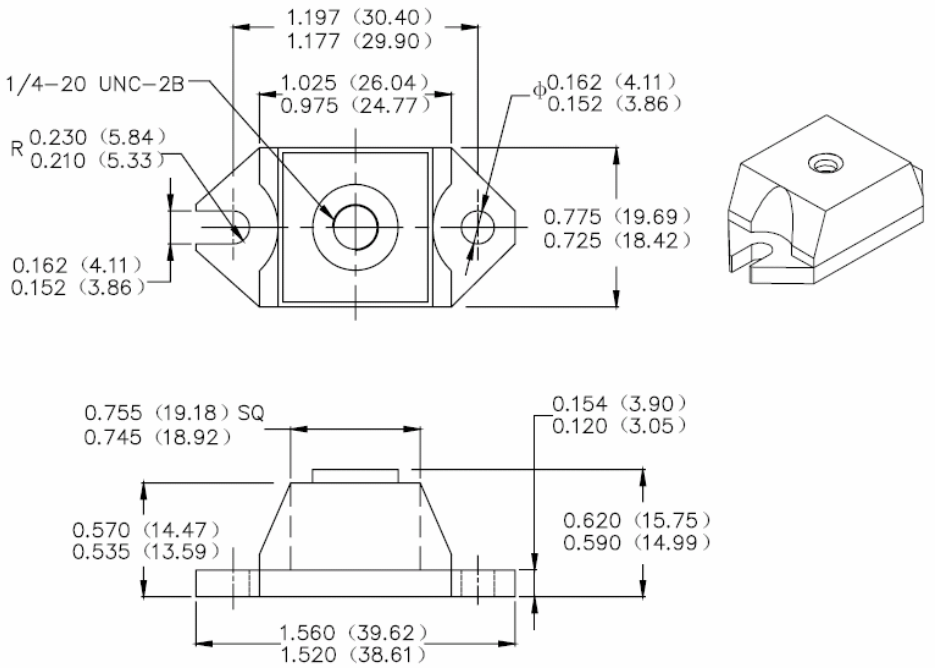
Features:

- 125℃ T_J operation
- Unique high power, Half-Pak module
- Replaces three parallel DO-5'S
- Easier to mount and lower profile than DO-5'S
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



125NQ015-1 **125NQ015R-1**

Mechanical Dimensions: In Inches / mm



PRM1-1(HALF PAK Module)

MARKING,MOLDING RESIN
Marking for 125NQ015/R-1, 1st row SS YYWWL, 2nd row 125NQ015-1/125NQ015R-1
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

Technical Data
Data Sheet N1235, Rev. -

Green Products

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	15(DC) 25(Working)	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_C =71°C, rectangular wave form	120	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	2040	A
Non-Repetitive Avalanche Energy	E_{AS}	T_J=25℃,I_{AS}=2A,L=4.5mH	9	mJ
Repetitive Avalanche Current	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. V_A=1.5× V_R typical	2	A

Electrical Characteristics:

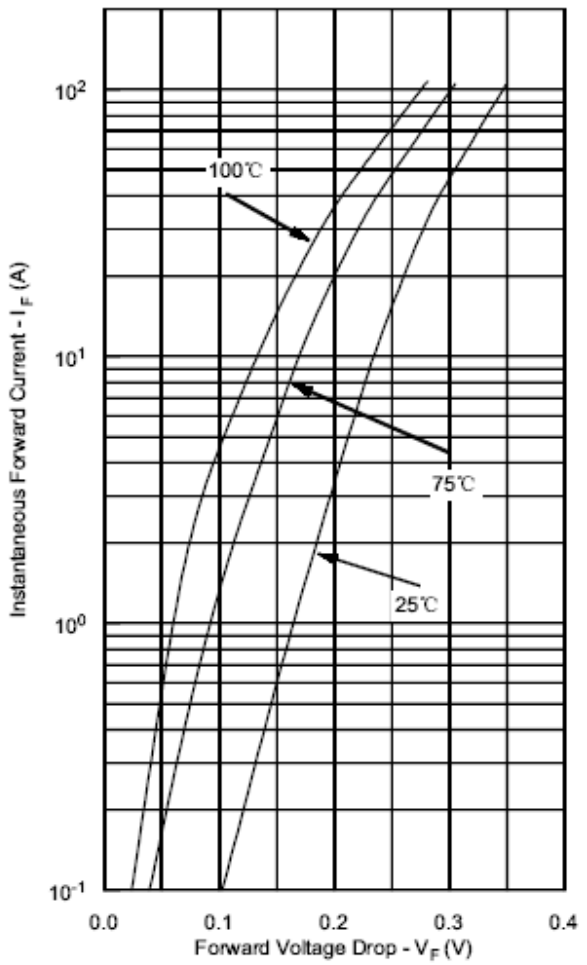
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop*	V_{F1}	@ 120A, Pulse, T_J = 25 °C @ 240A, Pulse, T_J = 25 °C	0.39 0.52	V
	V_{F2}	@ 120A, Pulse, T_J = 75 °C @ 240A, Pulse, T_J = 75 °C	0.33 0.45	V
Max. Reverse Current (per leg) *	I_{R1}	@V_R = rated V_R T_J = 25 °C	40	mA
	I_{R2}	@V_R = rated V_R T_J = 100 °C	2000	mA
	I_{R3}	@V_R = rated V_R T_J = 100 °C	1780	mA
	I_{R4}	@V_R = rated V_R T_J = 100 °C	1080	mA
Max. Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	7700	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	7.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/μs

- Pulse Width < 300μs, Duty Cycle <2%

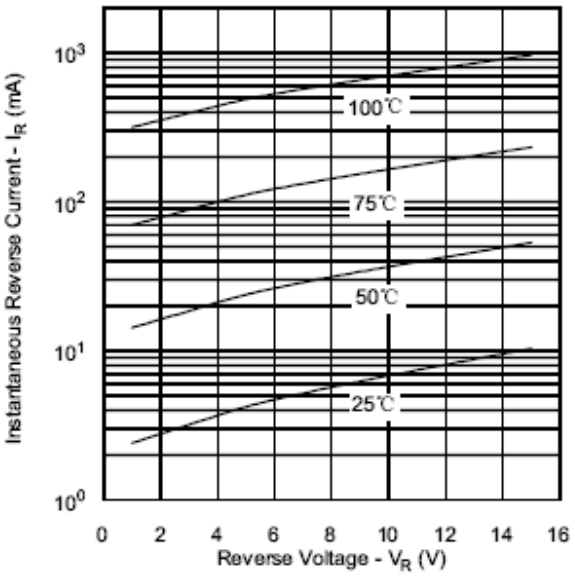
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification		Units
Max. Junction Temperature	T_J	-	-55 to +125		°C
Max. Storage Temperature	T_{stg}	-	-55 to +150		°C
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	0.40		°C/W
Typical Thermal Resistance, case to Heat Sink	$R_{\theta cs}$	Mounting surface, smooth and greased	0.15		°C/W
Mounting Torque	T_M	Non-lubricated threads	Mounting Torque	23(min) 29(max)	Kg-cm
			Terminal Torque	35(min) 46(max)	
Approximate Weight	wt	-	25.6		g
Case Style	PRM1-1				

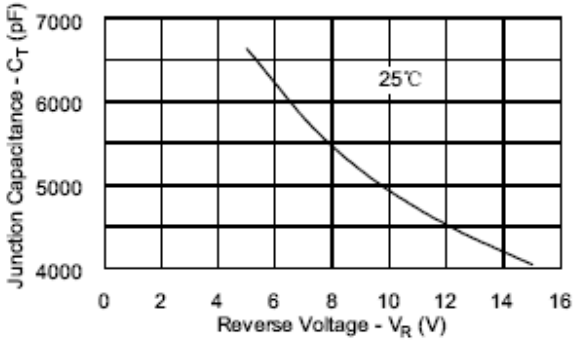
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



Technical Data
Data Sheet N1235, Rev. -

Green Products

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