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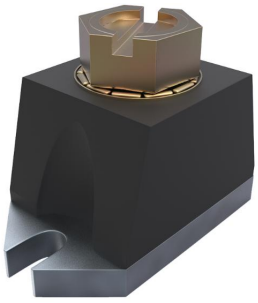
Data Sheet N1205, Rev.C

243NQ080/R-1 243NQ100/R-1
SCHOTTKY RECTIFIER



PRM1-1(HALF PAK Module)

Features

- 175℃ 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
- Baseplate: Nickel plated; Terminals: Nickel plated
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram

243NQ...-1　　243NQ...R-1

Applications

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

Maximum Ratings:

Characteristics	Symbol	Condition		Max.		Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-		80	243NQ080-1	V
				100	243NQ100-1	
Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_C =120°C, rectangular wave form		240		A
Maximum Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse		3960		A
		5 us sine or 3 us rect. pulse	Following and rated load condition and with rated V_{RRM} applied	25500		A
		10 ms sine or 6 ms rect. pulse		3300		
Non-Repetitive Avalanche Energy	E_{AS}	T_J=25℃,I_{AS}=1A,L=30 mH		15		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		1		A

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RoHS Pb

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 240A, Pulse, T_J = 25 °C	0.81	0.86	V
	V_{F2}	@ 240A, Pulse, T_J = 125 °C	0.66	0.72	V
Reverse Current*	I_{R1}	@V_R = rated V_R T_J = 25 °C	0.001	6	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	0.5	80	mA
Junction Capacitance	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	5423	5500	pF
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	$R_{\theta JC}$	DC operation	0.20		°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				

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RoHS

Ratings and Characteristics Curves

Figure1
Typical Forward Characteristics

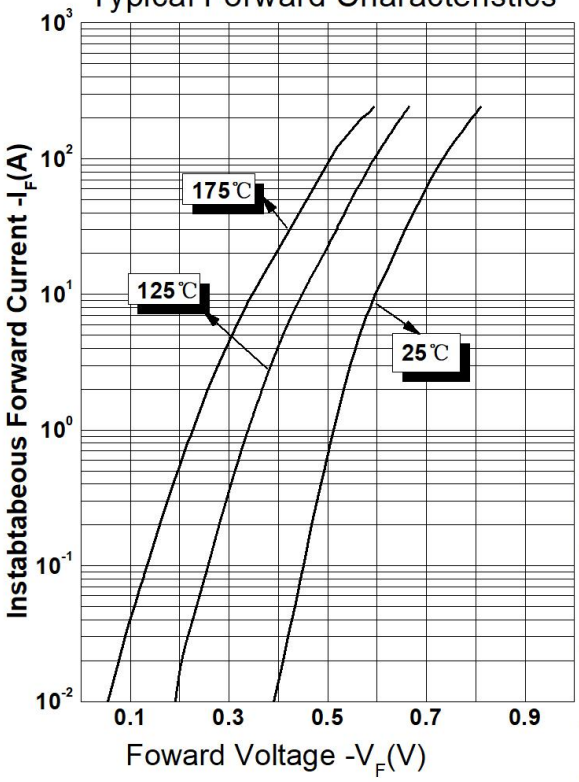


Figure 2
Typical Reverse Characteristics

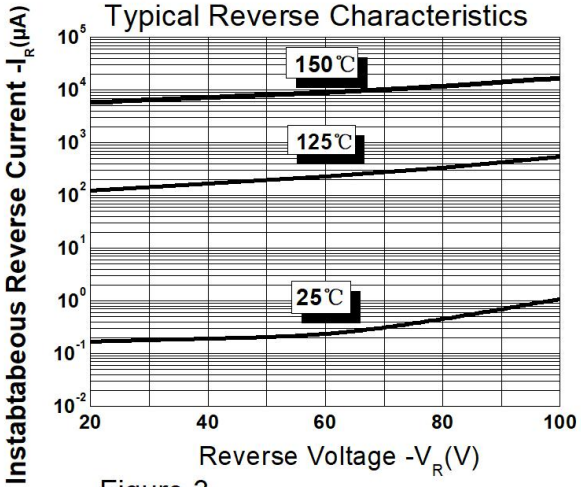
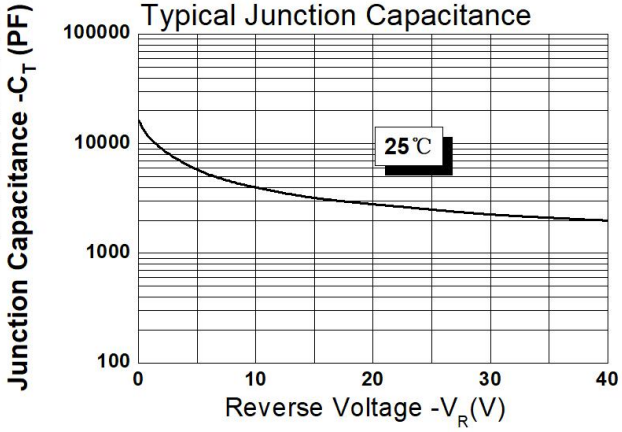


Figure 3
Typical Junction Capacitance



Ordering Information

Device	Package	Shipping
243NQ SERIES	PRM1-1(Pb-Free)	27pcs/ box

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram

Where XXXX is YYWW

1st row SS YYWW
2nd row 243NQ080-1
SS = SS
YY = Year
WW = Week

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

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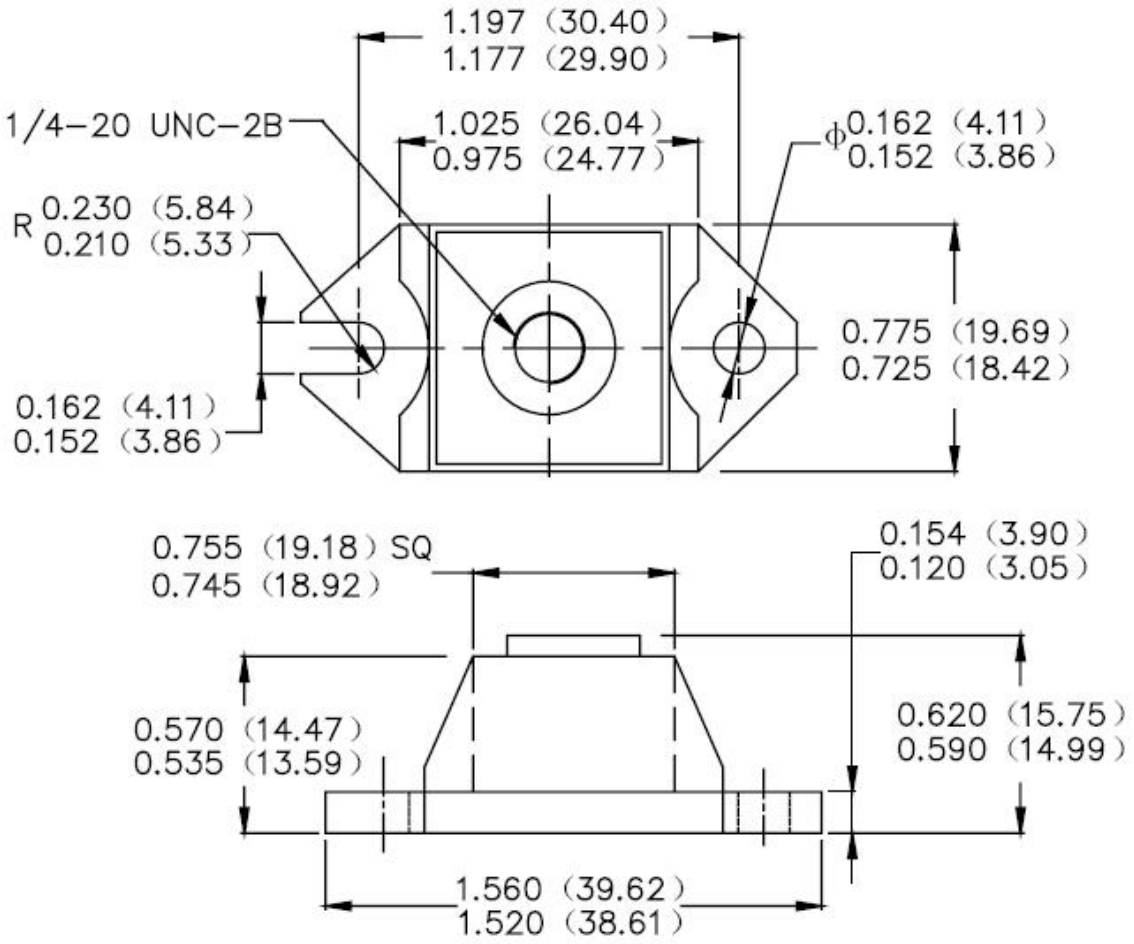
Mechanical Dimensions PRM1-1 (Inches/Millimeters)



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