

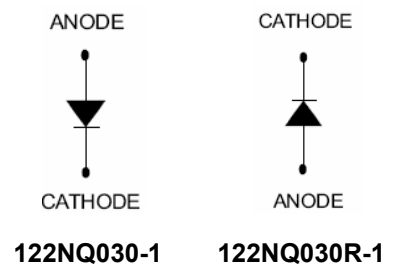
**122NQ030/R-1 SCHOTTKY RECTIFIER**

**Applications:**

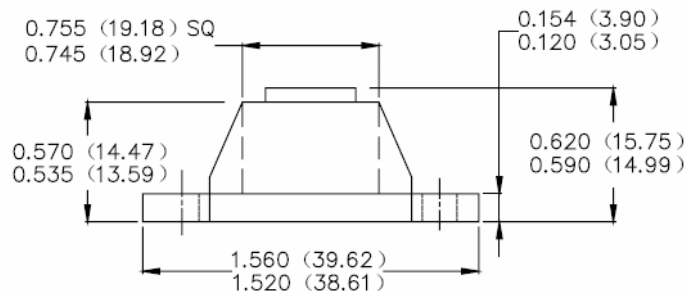
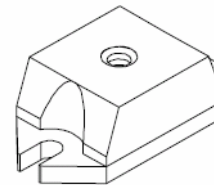
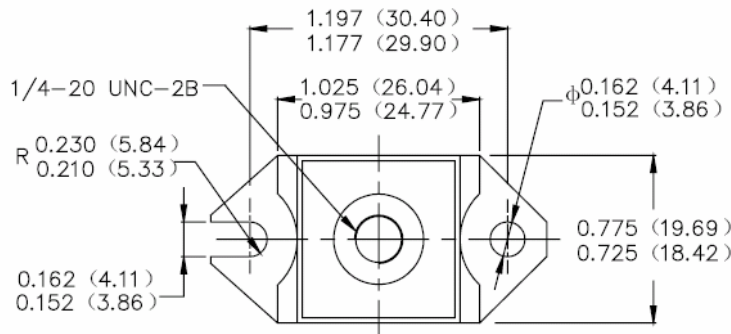
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

**Features:**

- 150°C T<sub>J</sub> 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



**Mechanical Dimensions: In mm/Inches**



**PRM1-1(HALF PAK Module)**

**MARKING, MOLDING RESIN**

Marking for 122NQ030/R-1, 1<sup>st</sup> row SS YYWWL, 2<sup>nd</sup> row 122NQ030-1/122NQ030R-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

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	$V_{RWM}$	-	30	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C=110^{\circ}C$ , rectangular wave form	120	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	2880	A

**Electrical Characteristics:**

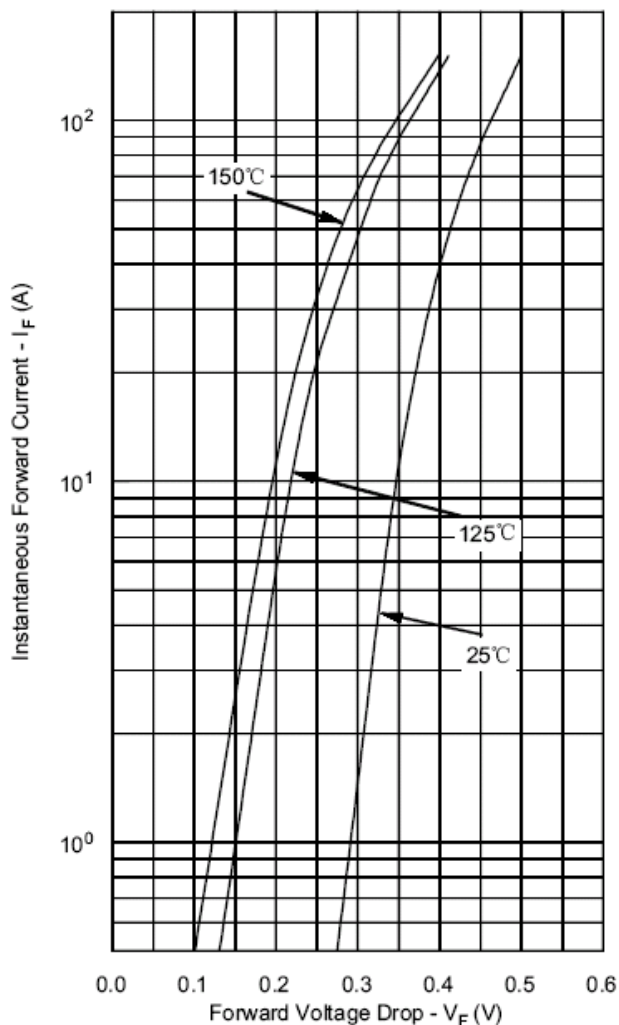
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop*	$V_{F1}$	@ 120A, Pulse, $T_J = 25^{\circ}C$ @ 240A, Pulse, $T_J = 25^{\circ}C$	0.49 0.59	V
	$V_{F2}$	@ 120A, Pulse, $T_J = 125^{\circ}C$ @ 240A, Pulse, $T_J = 125^{\circ}C$	0.41 0.54	V
Max. Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25^{\circ}C$	10	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125^{\circ}C$	560	mA
Max. Junction Capacitance (per leg)	$C_T$	@ $V_R = 5V$ , $T_C = 25^{\circ}C$ $f_{SIG} = 1MHz$	7400	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/ $\mu s$

\* Pulse Width < 300 $\mu s$ , Duty Cycle < 2%

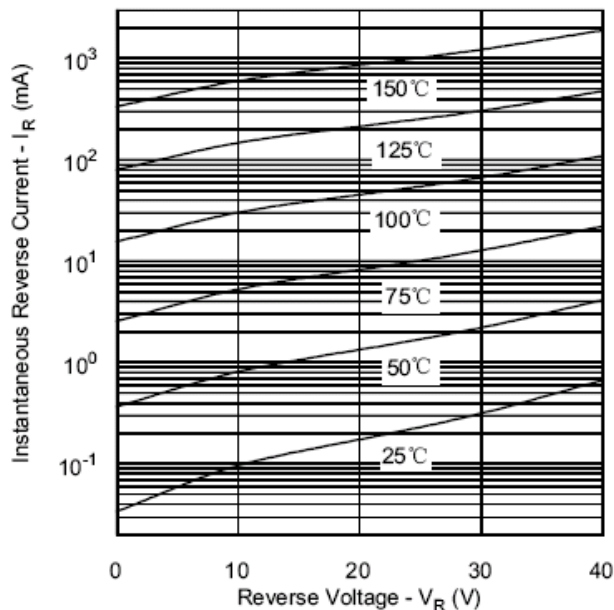
**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units	
Max. Junction Temperature	$T_J$	-	-55 to +150	$^{\circ}C$	
Max. Storage Temperature	$T_{stg}$	-	-55 to +150	$^{\circ}C$	
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	0.40	$^{\circ}C/W$	
Typical Thermal Resistance, case to Heat Sink	$R_{\theta cs}$	Mounting surface, smooth and greased	0.15	$^{\circ}C/W$	
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				

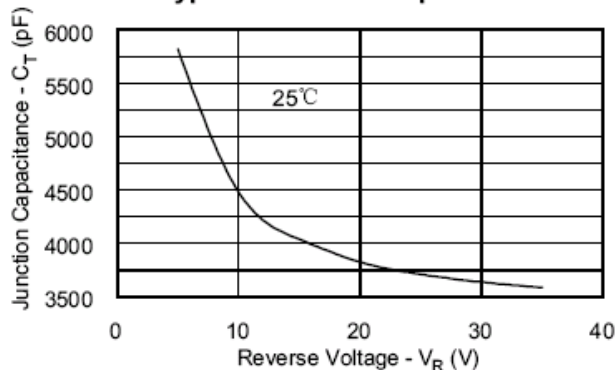
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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