

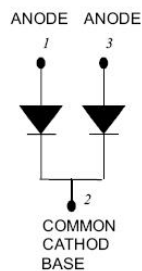
220CNQ030 SCHOTTKY RECTIFIER



Features

- 150°C T_J operation
- Center tap module
- 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



Applications

- High current switching power supply
- Plating power supply
- Free-Wheeling diodes
- Reverse battery protection
- Converters
- UPS System
- Welding

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	-	30	V
Average Rectified Forward Current	I _{F(AV)}	50% duty cycle @T _C = 100°C, rectangular wave form	110(Per Leg) 220(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current (Per Leg)	I _{FSM}	8.3 ms, half Sine pulse	2880	A
Non-Repetitive Avalanche Energy(Peg Leg)	E _{AS}	T _J = 25°C, I _{AS} = 22A, L = 0.41mH	99	mJ
Repetitive Avalanche Current(Peg Leg)	I _{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T _J max. V _A = 1.5 × V _R typical	22	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V _{F1}	@ 110A, Pulse, T _J = 25 °C @ 220A, Pulse, T _J = 25 °C	0.48 0.56	0.50 0.59	V
	V _{F2}	@ 110A, Pulse, T _J = 125 °C @ 220A, Pulse, T _J = 125 °C	0.39 0.46	0.42 0.54	V
Reverse Current(Per Leg)*	I _{R1}	@V _R = rated V _R , T _J = 25 °C	0.4	10	mA
	I _{R2}	@V _R = rated V _R , T _J = 125 °C	75	560	mA
Junction Capacitance(Per leg)	C _T	@V _R = 5V, T _C = 25 °C f _{sig} = 1MHz	5500	7400	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 +150		°C
Storage Temperature	T _{stg}	-	-55 to +150		°C
Typical Thermal Resistance Junction to Case(Per leg)	R _{θJC}	DC operation	0.40		°C/W
Typical Thermal Resistance Junction to Case(Per package)	R _{θJC}	DC operation	0.20		°C/W
Typical Thermal Resistance, case to Heat Sink	R _{θcs}	Mounting surface, smooth and greased	0.08		°C/W
Mounting Torque	T _M	-	Mounting Torque	24(min) 35(max)	Kg-cm
			Terminal Torque	35(min) 46(max)	
Approximate Weight	wt	-	91		g

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

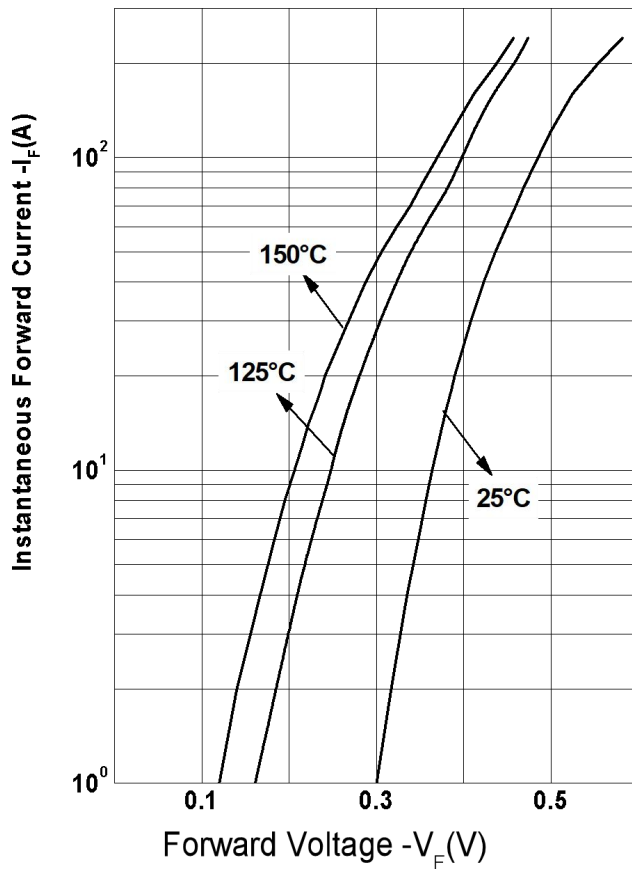


Figure 2
Typical Reverse Characteristics

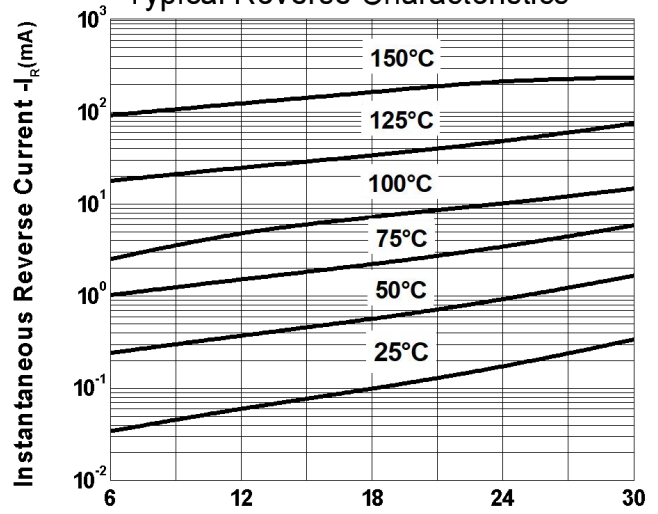
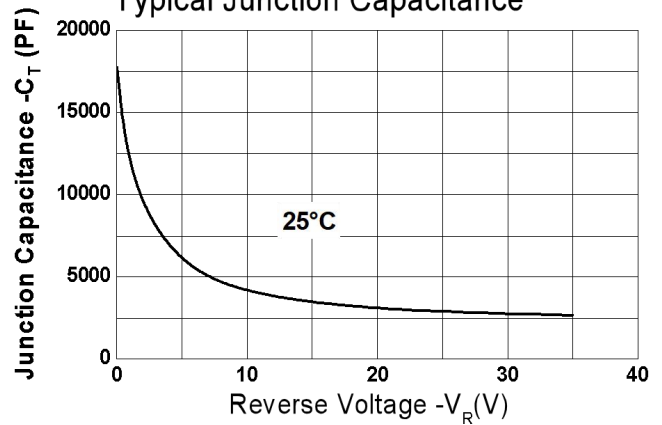
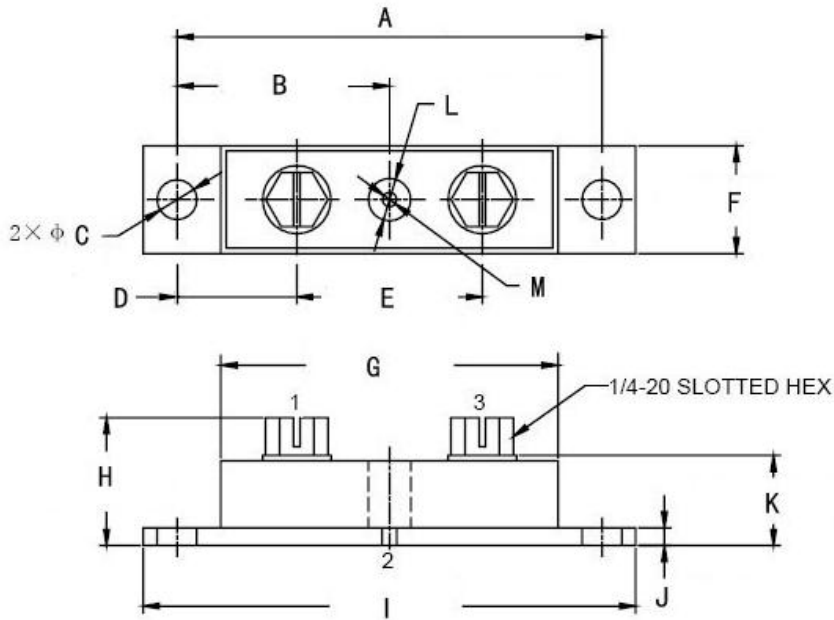
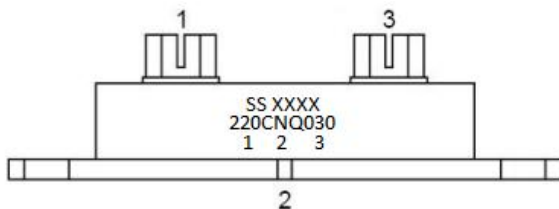


Figure 3
Typical Junction Capacitance



Mechanical Dimensions PRM4 Non-Isolated(Millimeters/Inches)


SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	78.74	81.28	3.100	3.200
B	37.47	42.55	1.475	1.675
C	6.89	7.69	0.271	0.303
D	19.51	24.59	0.768	0.968
E	33.02	38.10	1.300	1.500
F	17.78	20.32	0.700	0.800
G	60.96	64.77	2.400	2.550
H	17.26	23.25	0.680	0.915
I	90.17	92.71	3.550	3.650
J	3.02	3.68	0.119	0.145
K	14.30	16.15	0.563	0.636
L	9.27	10.79	0.365	0.425
M	4.37	5.28	0.172	0.208

Marking Diagram


Where XXXX is YYWW

220CNQ030 = Part name
 SS = SS
 YY = Year
 WW = Week

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

Ordering Information

Device	Package	Shipping
220CNQ030	PRM4(Non- Isolated) (Pb-Free)	9 pcs/box

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