

401CNQ035/401CNQ040/401CNQ045 SCHOTTKY RECTIFIER

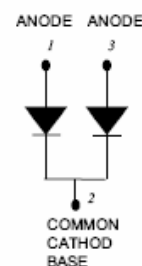
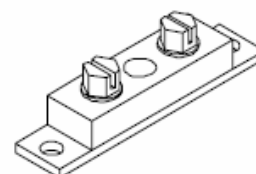
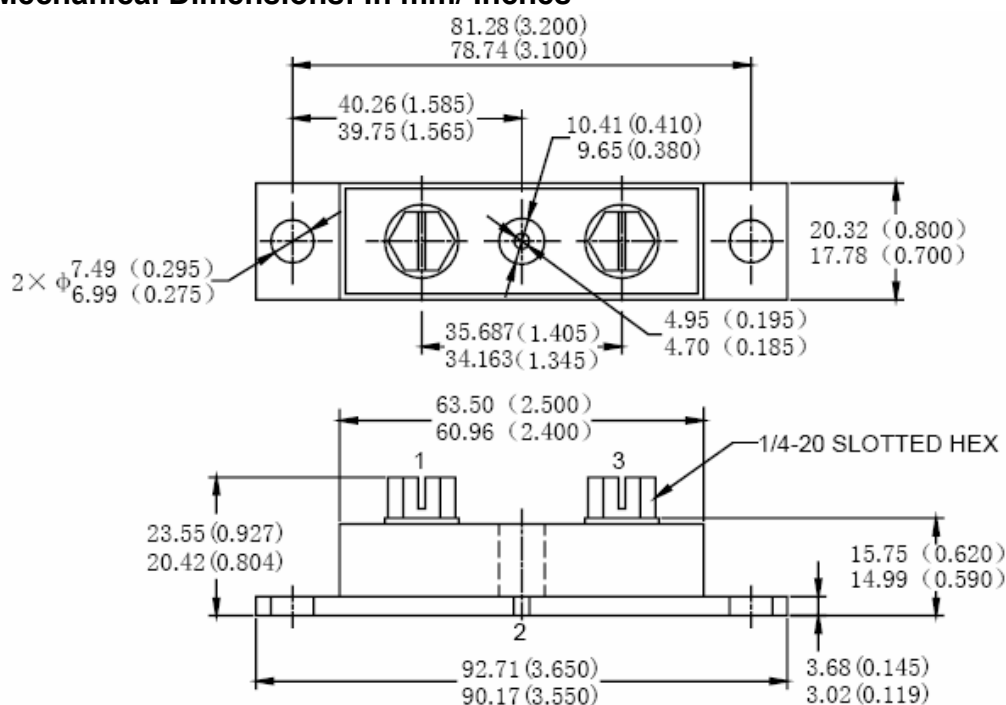
Applications:

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

Features:

- 175°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
- 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



PRM4 (Non-Isolated)

MARKING, MOLDING RESIN

Marking for 401CNQ035/040/045, 1st row SS YYWWL, 2nd row 401CNQ035/040/045

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
Green Products
Data Sheet N1225, Rev. B
Maximum Ratings:

Characteristics	Symbol	Condition	Max.		Units
Peak Inverse Voltage	V_{RWM}	-	35	401CNQ035	V
			40	401CNQ040	
			45	401CNQ045	
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 116^\circ\text{C}$, rectangular wave form	200	per leg	A
			400	per device	
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	4140		A
Non-Repetitive Avalanche Energy(per leg)	E_{AS}	$T_J = 25^\circ\text{C}$, $I_{AS} = 40\text{A}$, $L = 0.34\text{mH}$	270		mJ
Repetitive Avalanche Current(per leg)	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical	40		A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 200A, Pulse, $T_J = 25^\circ\text{C}$	0.67	V
		@ 400A, Pulse, $T_J = 25^\circ\text{C}$	0.78	
	V_{F2}	@ 200A, Pulse, $T_J = 125^\circ\text{C}$	0.56	V
		@ 400A, Pulse, $T_J = 125^\circ\text{C}$	0.68	
Max. Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	20	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	180	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{\text{SIG}} = 1\text{MHz}$	10300	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	5.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ μs
Insulation Voltage	V_{RMS}	-	1000	V

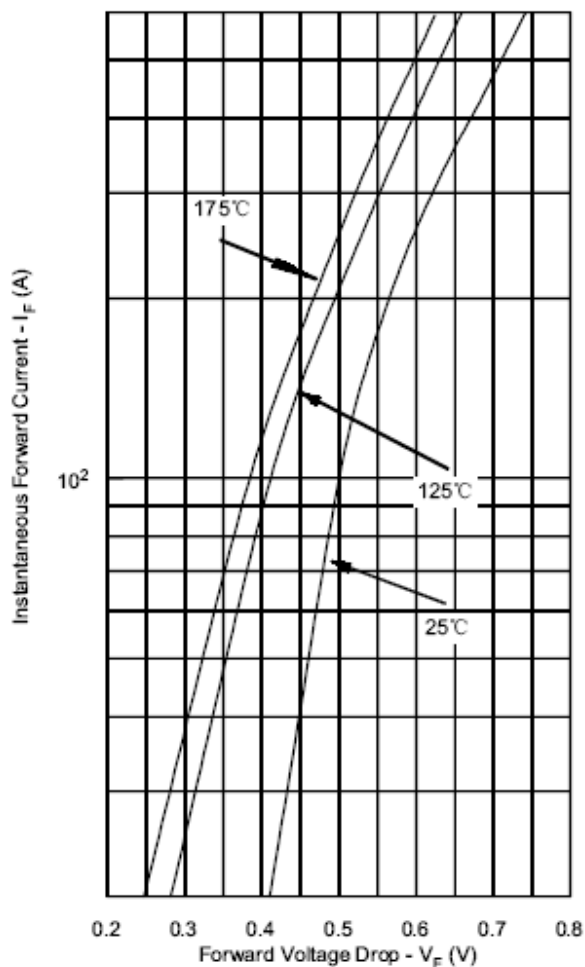
* Pulse Width < 300 μs , Duty Cycle < 2%

Thermal-Mechanical Specifications:

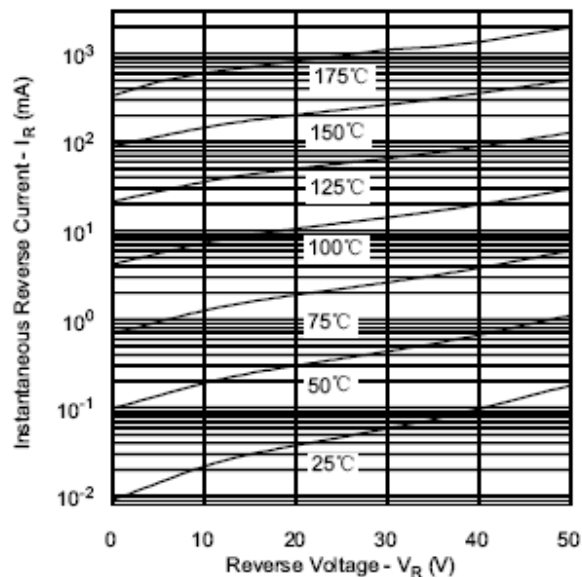
Characteristics	Symbol	Condition	Specification		Units
Max. Junction Temperature	T _J	-	-55 to +175		°C
Max. Storage Temperature	T _{stg}	-	-55 to +175		°C
Maximum Thermal Resistance Junction to Case (per leg)	R _{θJC}	DC operation	0.20		°C/W
Maximum Thermal Resistance Junction to Case (per package)	R _{θJC}	DC operation	0.10		°C/W
Typical Thermal Resistance, case to Heat Sink	R _{θcs}	Mounting surface, smooth and greased	0.10		°C/W
Mounting Torque	T _M	-	Mounting Torque	24(min) 35(max)	Kg-cm
			Terminal Torque	35(min) 46(max)	
Approximate Weight	wt	-	79		g
Case Style	PRM4 Non-Isolated				

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- FAX (86) 25-87123900 • World Wide Web Site - <http://www.sangdest.com.cn> • E-Mail Address - sales@sangdest.com.cn •

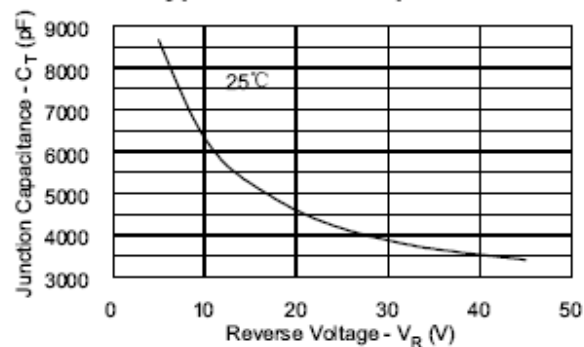
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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