

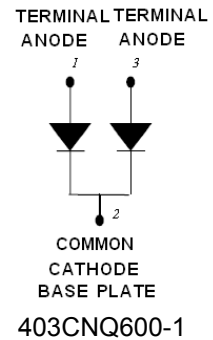
403CNQ600-1 ULTRAFAST RECTIFIER

Applications:

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

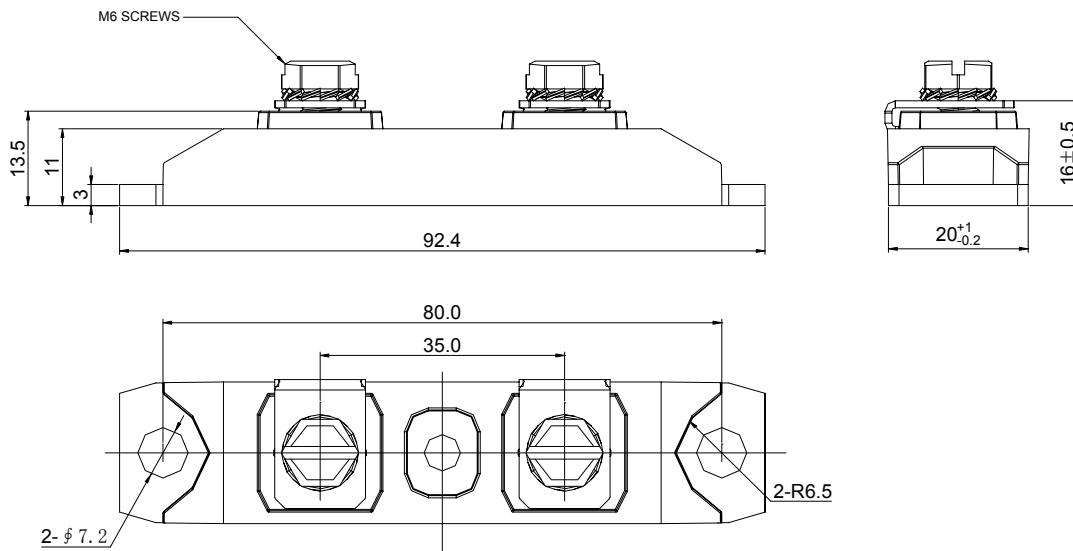
Features:

- 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

The top side is terminal, the bottom side is base plate.



PRM4-1 (Non-Isolated)

MARKING, MOLDING RESIN

Marking for 403CNQ600-1, 1st row SS YYWWL, 2nd row 403CNQ600-1

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 Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	600	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 125^\circ\text{C}$, rectangular wave form	400	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	2700	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 200A, Pulse, $T_J = 25^\circ\text{C}$	1.5	V
Reverse Current*	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	20	μA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	3	mA
Reverse Recovery Time	t_{rr}	$I_F = 500\text{mA}$, $I_R = 1\text{A}$, and $I_m = 250\text{mA}$	120	ns

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	$^\circ\text{C}$
Storage Temperature	T_{stg}	-	-55 to +175	$^\circ\text{C}$
Typical Thermal Resistance Junction to Case(per diodes)	$R_{\theta JC}$	DC operation	0.14	$^\circ\text{C/W}$
Approximate Weight	wt	-	80	g
Mounting torque	T_M	-	30(3.4)	Lbf.in
Mounting torque			18(2.1)	(N.M)
Terminal torque			30(3.4)	
Case Style		PRM4-1(Non-Isolated)		



403CNQ600-1

Technical Data
Data Sheet N1810, Rev. -

Green Products

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