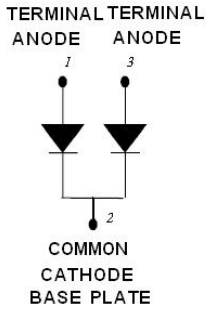
Technical Data
Data Sheet N1810, Rev B

403CNQ600-1 ULTRAFAST RECTIFIER

Features

- 175 ℃ T_J operation
- Dual Diode construction
- Low Leakage Current
- Low forward voltage drop
- High surge current capability
- Super Fast Switching
- 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



403CNQ600-1

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

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	-	600	V
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @T_C =125°C, rectangular wave form	200(Per Leg) 400(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current (Per Leg)	I_{FSM}	8.3 ms, half Sine pulse	2800	A

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Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 200A, Pulse, T_J = 25 °C	1.25	1.35	V
Reverse Current*	I_{R1}	@V_R = rated V_R, T_J = 25 °C	0.40	20	µA
	I_{R2}	@V_R = rated V_R, T_J = 125 °C	-	3	mA
Reverse Recovery Time	t_{rr}	IF=500mA, IR=1A,and Irm=250mA	146	180	ns

* 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(Per leg)	$R_{\theta JC}$	DC operation	0.14	°C/W
Approximate Weight	wt	-	80	g
Mounting torque Mounting torque Terminal torque	T_M	-	30(3.4) 18(2.1) 30(3.4)	Lbf.in (N.M)
Approximate Weight	wt	-	80	g
Case Style	PRM4-1 (Non-Isolated)			

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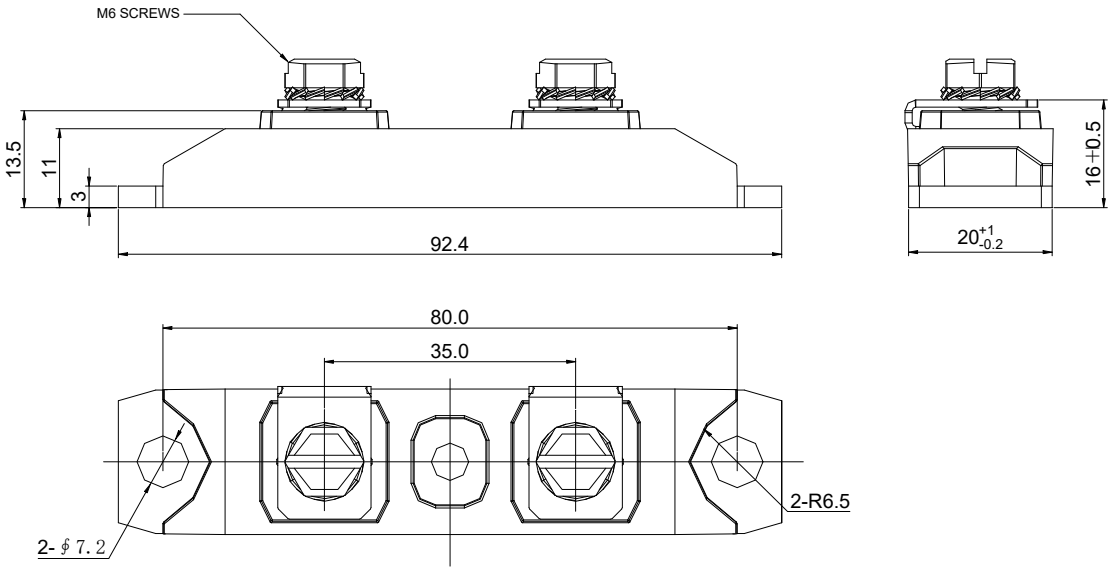
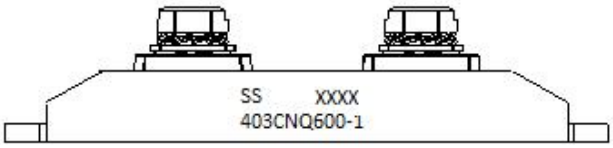
Mechanical Dimensions PRM4-1 Non-Isolated(Millimeters/Inches)



Marking Diagram



Where XXXX is YYWW

403CNQ600-1 = Part name
SS = SS
YY = Year
WW = Week

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

Ordering Information

Device	Package	Shipping
403CNQ600-1	PRM4-1(Non- Isolated) (Pb-Free)	9 pcs/box

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

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