SUNON

SPECIFICATION FOR APPROVAL

FOR REFERENCE

CUSTOMER	**:**	
DESCRIPTION	**:**	**DC BRUSHLESS FAN**
DIMENSIONS	**:**	**120X120X38 mm**
M O D E L	**:**	**PMD2412PMB1-A**
P/N	**:**	**(2).GN**
SUNON SPEC. NO.	**:**	**D12046260G-01**
CUSTOMER APPROVAL NO.	**:**	
APPROVED BY CUSTOMER (AUTHORIZED)	**:**	

DRAWN	Alice-chang	**CHECKED**	Cindy	**APPROVED**	Cindy	**SPEC.NO**	**D12046260G-01**
						ISSUE DATE	**01.05.2026**
						EDITION	**0**
						REVISION DATE	
						E.SPEC	**E12500879**

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DC BRUSHLESS FAN

MODEL : PMD2412PMB1-A

P/N : (2).GN

CHARACTERISTICS

1. Motor Design	:	**2 phases, 4-poles Brushless DC motor.**
2. Insulation Resistance	:	**More than 10M ohm between internal stator and lead wire(+) measured at DC 500V.**
3. Dielectric Strength	:	**Applied AC 500V for one minute or AC 600V for 2 seconds between housing and lead wire(+)**
4. Noise Level	:	**Measured in a semi-anechoic chamber with background noise level below 15 dB(A). The fan is running in free air with the microphone at a distance of one meter from the fan intake.**
5. Input Power, Current & Speed	:	**Measured after continuous 10 minute operation at rated voltage in clean air, and at ambient temperature of 25 degrees C.**
6. Tolerance	:	**±15% on rated power and current.**
7. Air Performance	:	**Measured by a double chamber. The values are recorded when the fan speed has stabilized at rated voltage.**

SPECIFICATIONS

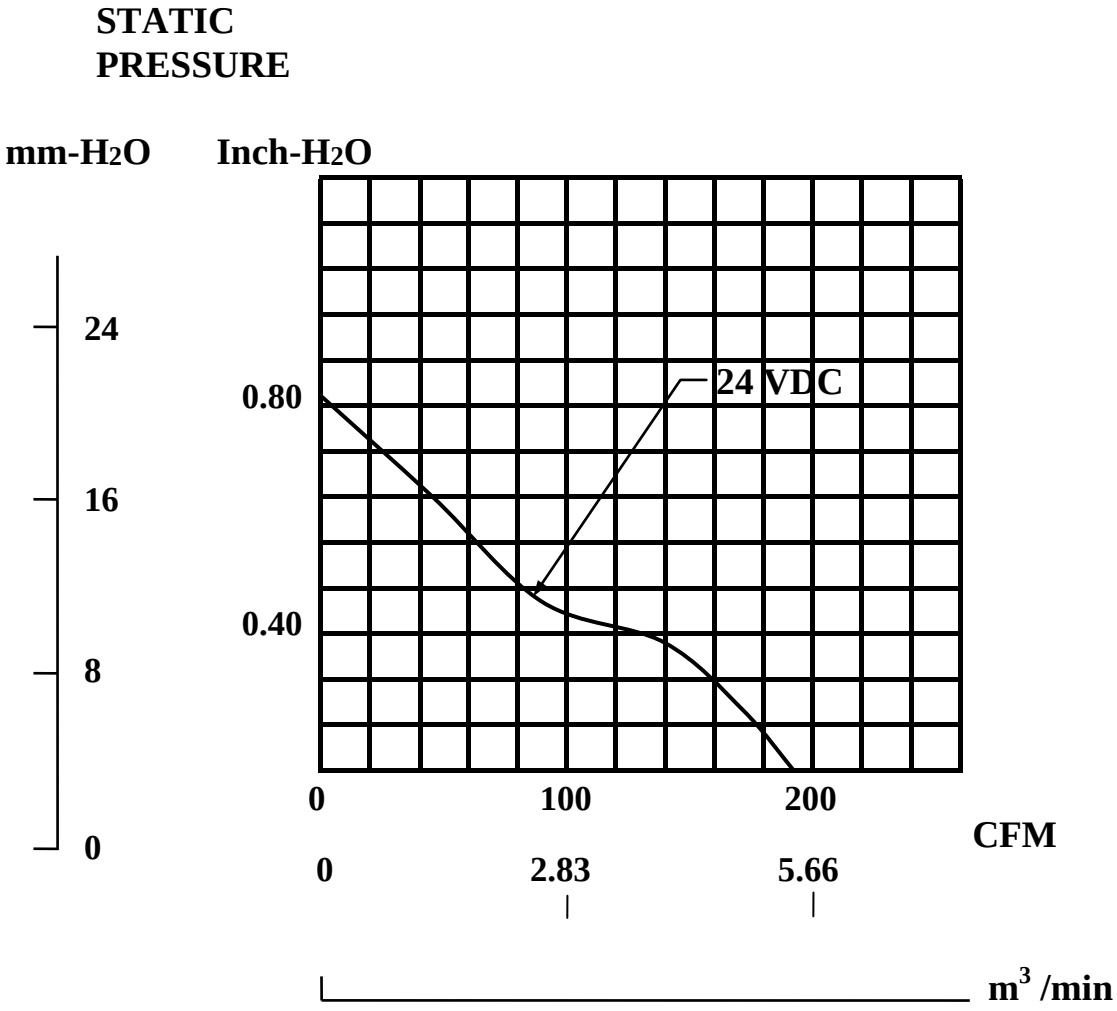
MODEL : PMD2412PMB1-A
P/N : (2).GN

1-1.	**Rated Voltage**	**: 24 VDC**
1-2.	**Operating Voltage Range**	**: 10~27.6 VDC**
1-3.	**Starting Voltage**	**: 10 VDC (25 deg. C POWER ON/OFF)**
1-4.	**Rated Speed**	**: 4200 RPM ± 10%**
1-5.	**Air Delivery**	**: 190 CFM**
1-6.	**Static Pressure**	**: 0.65 Inch-H_2O**
1-7.	**Rated Current**	**: 760 mA**
1-8.	**Rated Power**	**: 18.2 WATTS**
1-9.	**Noise Level**	**: 54 dB(A)**
1-10.	**Direction of Rotation**	**: Counter-clockwise viewed from front of fan blade**
1-11.	**Operating Temperature**	**: -20 to +70 deg. C**
1-12.	**Storage Temperature**	**: -40 to +70 deg. C**
1-13.	**Bearing System**	**: Precision ball bearing system**
1-14.	**Weight**	**: 330 g**
1-15.	**Safety**	**: UL/CUR/TUV/CE/UKCA Approvals**
1-16.	**Protection**	**: ☑Automatic Restart Capability**

Note: In a situation where the fan is locked by an external force while the electricity is on, an increase in coil temperature will be prevented by temporarily turning off the electrical power to the motor. The fan will automatically restart when the locked rotor condition is released.

☑Polarity Protection

PERFORMANCE CURVES

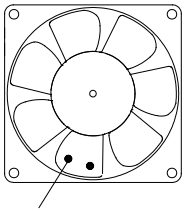


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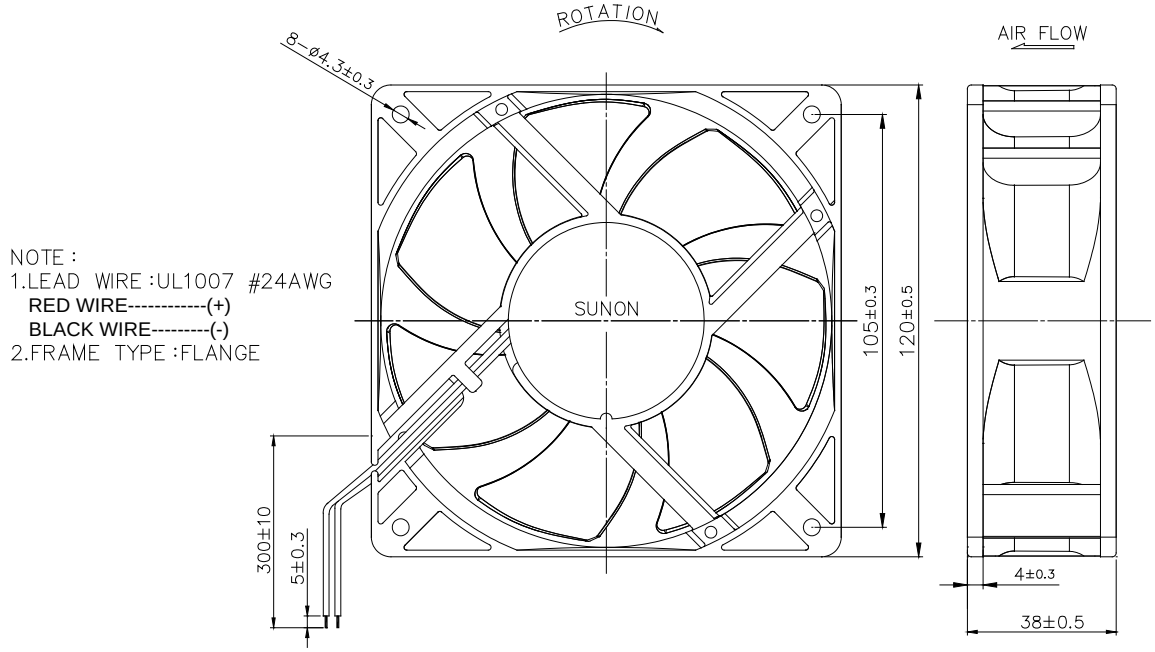
MATERIAL

2-1. Frame	**:**	**Thermoplastic PBT of UL 94V-0**
2-2. Impeller	**:**	**Thermoplastic PBT of UL 94V-0**
2-3. Lead Wire	**:**	**UL1007,24 awg,+RED,-BLACK**

DIMENSIONS



Note: The glues on the impeller is for impeller balance. Please don't remove it.



NOTE :
1.LEAD WIRE :UL1007 #24AWG
RED WIRE----------(+)
BLACK WIRE---------(-)
2.FRAME TYPE :FLANGE

1. Air Flow Direction: Toward label side.
2. Best Mounting Direction: Any orientation.

UNIT : mm

Notes

Ⅰ.SAFETY

1. **DO NOT use or operate this fan in excess of the limitations set forth in this specification. SUNON is not responsible for the non-performance of this fan and/or any damages resulting from its use, if it is not used or operated in accordance with the specifications.**

2. **SUNON recommends adding a protection circuit to the product or application in which this fan is installed, such as a thermo-fuse, or current-fuse or thermo-protector. The failure to use such a device may result in smoke, fire, electric shock by insulation degradation in cases of motor lead short circuit, overload, or over voltage, and/or other failure.**

3. **SUNON recommends installing a protection device to the product or application in which this fan is installed if there is a possibility of reverse-connection between VDC (+) and GND (-). The failure to install such a device may result in smoke, fire, and/or destruction, although these conditions may not manifest immediately.**

4. **This fan must be installed and used in compliance with all applicable safety standards and regulations.**

5. **Use proper care when handling and/or installing this fan. Improper handling or installation of this fan may cause damage that could result in unsafe conditions.**

6. **Use proper care during installation and/or wiring. Failure to use proper care may cause damage to certain components of the fan including, but not limited to, the coil and lead wires, which could result in smoke and/or fire.**

7. **DO NOT use power or ground PWM to control the fan speed. If the fan speed needs to be adjusted, please contact SUNON to customize the product design for your application.**

8. **For critical or extreme environments, including non stop operation, please contact SUNON and we will gladly provide assistance with your product selection to ensure an appropriate cooling product for your application.**

Notes

II. SPECIFICATION MODIFICATION

1. SUNON offers engineering assistance on fan installation and cooling system design.

2. All changes, modifications and/or revisions to the specifications, if any, are incorporated in the attached specifications.

3. No changes, modifications and/or revisions to these specifications are effective absent agreement, by both SUNON and the customer, in writing.

4. This fan will be shipped in accordance with the attached specification unless SUNON and the customer have agreed otherwise, in writing, as specified in Paragraph 3, above.

III. OTHER

1. When building your device, please examine thoroughly any variation of EMC, temperature rise, life data, quality, etc. of this product by shock/drop/vibration testing, etc. If there are any problems or accidents in connection with this product, it should be mutually discussed and examined.

2. Use proper care when handling this fan. Components such as fan holders or bearings may be damaged, if touched with fingers or other objects. Additionally, static electricity (ESD) may damage the internal circuits of the fan.

3. DO NOT operate this fan in proximity to hazardous materials such as organic silicon, cyanogens, formalin, phenol, or corrosive gas environments including, but not limited to, H_2S, SO_2, NO_2, or Cl_2.

4. SUNON recommends that you protect this fan from exposure to outside elements such as dust, condensation, humidity or insects. Exposure of this fan to outside elements such as dust, condensation, humidity or insects may affect its performance and may cause safety hazards. SUNON does not warrant against damage to the product caused by outside elements.

Notes

5. **This fan must be installed properly and securely. Improper mounting may cause harsh resonance, vibration, and noise.**

6. **Fan guards may prevent injury during handling or installation of the fan and are available for sale with this fan.**

7. **Unless otherwise noted, all testing of this fan is conducted at 25°C ambient temperature and sixty-five percent (65%) relative humidity.**

8. **DO NOT store this fan in an environment with high humidity. This fan must be stored in accordance with the attached specifications regarding storage temperature. If this fan is stored for more than 6 months, SUNON recommends functional testing before using.**

9. **SUNON reserves the right to use components from multiple sources at its discretion. The use of components from other sources will not affect the specifications as described herein.**

10. **The "Life Expectancy" of this fan has not been evaluated for use in combination with any end application. Therefore, the Life Expectancy Test Reports (L10 and MTTF Report) that relate to this fan are only for reference.**

11. **Be certain to connect an " 4.7μF or greater" capacitor to the fan externally when the application calls for using multiple fans in parallel, to avoid any unstable power.**

VI. WARRANTY

This fan is warranted against all defects which are proved to be fault in our workmanship and material for one year from the date of our delivery. The sole responsibility under the warranty shall be limited to the repair of the fan or the replacement thereof, at SUNON's sole discretion. SUNON will not be responsible for the failures of its fans due to improper handing, misuse or the failure to follow specifications or instructions for use. In the event of warranty claim, the customer shall immediately notify SUNON for verification. SUNON will not be responsible for any consequential damage to the customer's equipment as a result of any fans proven to be defective.

Declaration of RoHS

SUNON (including Sunonwealth Electric Machine Industry Co., Ltd., SUNON Electronics (Kun Shan) Co., Ltd., SUNON Electronics (Beihai) Co.,Ltd., Lizhun Electronics (Beihai) Co., Ltd. and SUNON Electronics (Philippines) Co., Ltd.) guarantee that the products made by SUNON comply with the requirements of the Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive (EU) 2015/863 amending 2011/65/EU the Annex II , the use of the restricted substances in homogeneous materials is in accordance with the following limit values:

No	Substance	Limit Value
1	Cadmium (Cd)	<100 ppm
2	Hexavalent Chromium (CrVI)	<1000 ppm
3	Lead (Pb) *	<1000 ppm
4	Mercury (Hg)	<1000 ppm
5	Polybrominated Biphenyls(PBBs)	<1000 ppm
6	Polybrominateddiphenyl ethers (PBDEs)	<1000 ppm
7	Di-butyl Phthalate(DBP)	<1000 ppm
8	Benzyl butyl Phthalate(BBP)	<1000 ppm
9	Di-ethylhexyl Phthalate (DEHP)	<1000 ppm
10	Di-isobutyl Phthalate (DIBP)	<1000 ppm

* Note: Lead content in homogeneous materials may be greater than 1000 ppm, such as steel alloys, copper alloys, high melting point solder, and ceramics and glass, which applies to exemption 6(a), 6(c), 7(a) and 7(c)-I respectively.

*This product complies with the RoHS and REACH Compliance Statement published on the SUNON official website.

Modify List