

# 11925SA (4710SB)

## DC Axial Fan Ball Bearing

# 119<sup>□</sup>X25<sup>L</sup>

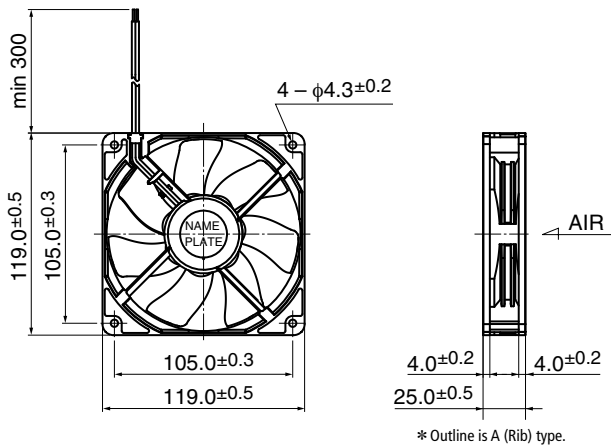


### General Specifications

Motor Protection : Auto Restart / Polarity Protection  
 Insulation Resistance : 10MΩ or over with a DC500V Megger  
 Dielectric Withstand Voltage : AC700V 1s

Allowable Ambient Temperature Range : L, M, N Class : -10°C ~ +70°C (Operating)  
 R Class : -10°C ~ +60°C  
 (non-condensing environment) **All Classes : -40°C ~ +70°C (Storage)**

### Outline

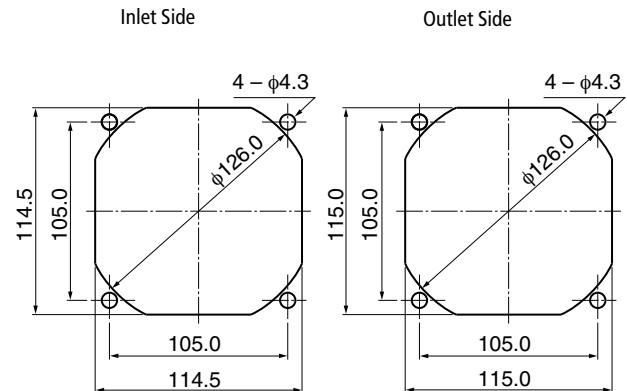


### Expected Life

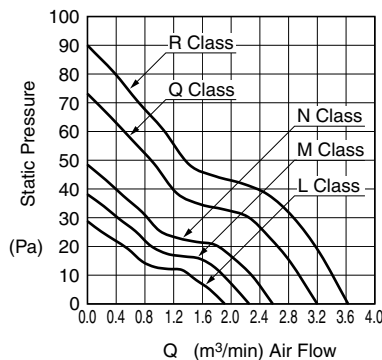
※ Failure Rate: 10% (L10 Life)

60°C 40,000 (Hours)

### Panel Out-cuts



### Characteristic Curves



### Material

Casing : Plastic (Black) UL94V-0  
 Impeller : Plastic (Black) UL94V-0  
 Bearing : Ball Bearing  
 Lead Wire : UL3385 AWG26 + : Red, - : Black

### Specifications

\*\*Flange casing is available

| Model**          | Product Number | Rating Voltage | Operating Voltage | Current | Input Power | Speed     | Max Air Flow |         | Max Static Pressure |            | Noise  | Mass |
|------------------|----------------|----------------|-------------------|---------|-------------|-----------|--------------|---------|---------------------|------------|--------|------|
|                  |                | (V)            | (V)               | (A)*1   | (W)*1       | (min-1)*1 | (m³/min)*1   | (CFM)*1 | (Pa)                | (In H2O)*1 | (dB)*1 | (g)  |
| 11925SA-12L-AAD- | 0              | 12             | 7.0 ~ 13.8        | 0.13    | 1.56        | 1900      | 1.90         | 67.1    | 28.5                | 0.11       | 30.0   | 165  |
| 11925SA-12M-AAD- | 0              | 12             | 7.0 ~ 13.8        | 0.16    | 1.92        | 2200      | 2.25         | 79.4    | 38.0                | 0.15       | 33.5   |      |
| 11925SA-12N-AAD- | 0              | 12             | 7.0 ~ 13.8        | 0.24    | 2.88        | 2500      | 2.58         | 91.1    | 48.0                | 0.19       | 37.0   |      |
| 11925SA-12R-AAD- | 0              | 12             | 7.0 ~ 13.2        | 0.62    | 7.44        | 3500      | 3.63         | 128.2   | 89.0                | 0.36       | 47.0   |      |
| 11925SA-24L-AAD- | 0              | 24             | 12.0 ~ 27.6       | 0.06    | 1.44        | 1900      | 1.90         | 67.1    | 28.5                | 0.11       | 30.0   |      |
| 11925SA-24M-AAD- | 0              | 24             | 12.0 ~ 27.6       | 0.08    | 1.92        | 2200      | 2.25         | 79.4    | 38.0                | 0.15       | 33.5   |      |
| 11925SA-24N-AAD- | 0              | 24             | 12.0 ~ 27.6       | 0.11    | 2.64        | 2500      | 2.58         | 91.1    | 48.0                | 0.19       | 37.0   |      |
| 11925SA-24P-AAD- | 0              | 24             | 12.0 ~ 27.6       | 0.17    | 4.08        | 2800      | 2.89         | 102.1   | 60.5                | 0.24       | 40.5   |      |
| 11925SA-24Q-AAD- | 0              | 24             | 12.0 ~ 27.6       | 0.20    | 4.80        | 3100      | 3.20         | 113.0   | 73.0                | 0.29       | 44.0   |      |

Rotation: Clockwise as seen from the label side  
 Airflow Outlet: Label side

\*1: Average Values in Free Air

## General Specifications

Motor Type: DC Brushless Motor

Motor Protection: Auto Restart/Polarity Protection

Motor withstands reverse connection for positive and negative leads.

Insulation Resistance:

10M  $\Omega$  or over with a DC500V Megger

Dielectric Withstand Voltage:

AC 700V 1s or 500V 1min

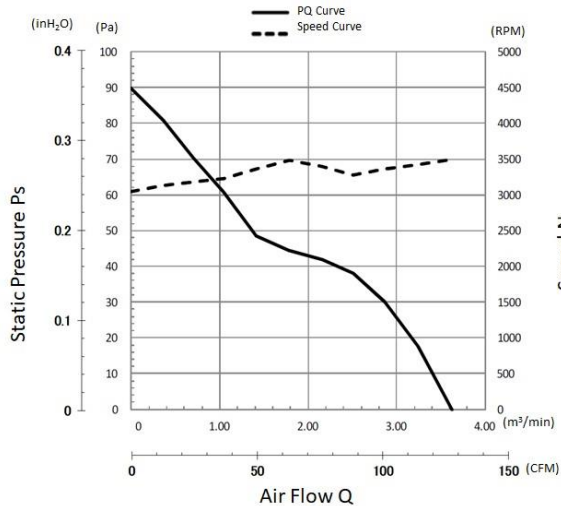
Allowable Ambient Temperature Range:

-10°C ~ +60°C (Operating)

-40°C ~ +70°C (Storage)

(non-condensing environment)

## Characteristics Curves



## PWM Benefits & Applications

### PWM Benefits

- Increased Life Expectancy
- Energy Saving
- Lower Vibration
- Lower Noise
- Current Spike Prevention

### PWM Applications

- Routers
- Switches
- Storage
- Data Centers
- Optical Repeaters
- Broadcast Equipment
- Inverters
- UPS
- Battery Chargers
- Fuel Cells
- Industrial Power Supplies
- Welders
- Plasma Cutters
- Instrumentation
- Test Equipment
- Enclosures and more

- Customized fan performances at multiple operating points.
- Peak efficiency resulting in lower total ownership costs.
- Cost effective and better reliability.

## Life Expectancy L10

60°C 40,000 Hours

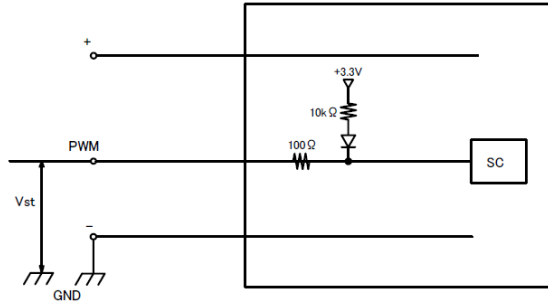
## Specifications

| MODEL             | Rated Voltage | Operating Voltage | Current           |                   | Input Power       |                   | Speed                              | Max. Air Flow |                       | Max. Static Pressure |      | Noise              | Mass |
|-------------------|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------------------------|---------------|-----------------------|----------------------|------|--------------------|------|
|                   | (V)           | (V)               | Avg               | Max               | Avg               | Max               |                                    | (CFM)         | (m <sup>3</sup> /min) | (inH <sub>2</sub> O) | (Pa) |                    |      |
|                   | (V)           | (V)               | (A) <sup>*1</sup> | (A) <sup>*1</sup> | (W) <sup>*1</sup> | (W) <sup>*1</sup> | (min <sup>-1</sup> ) <sup>*1</sup> | (CFM)         | (m <sup>3</sup> /min) | (inH <sub>2</sub> O) | (Pa) | (dB) <sup>*1</sup> | (g)  |
| 11925SA-12R-EUD-1 | 12            | 7.0~13.2          | 0.62              | 0.86              | 7.44              | 10.32             | 3500                               | 128.2         | 3.63                  | 0.36                 | 89   | 47.0               | 165  |

\*1: Values in Free Air

## PWM Specifications

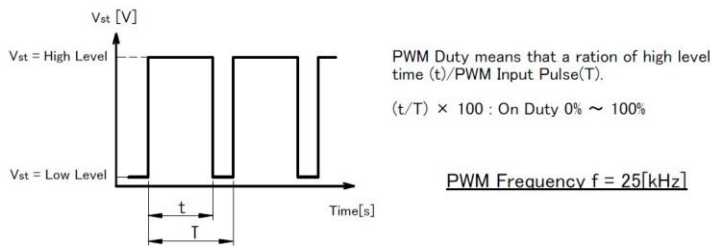
### ● CONNECTION



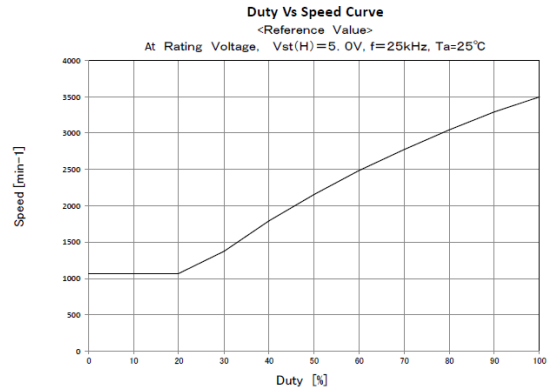
#### 1. PWM Control

- V<sub>st</sub> = Low Level (0V~0.4V) → Stop (On Duty 0%)
- V<sub>st</sub> = High Level (4.0V~5.0V) → Full Speed (On Duty 100%)
- V<sub>st</sub> = Open → Full Speed

#### 2. PWM Duty & PWM Input Pulse



## PWM Characteristics Curve



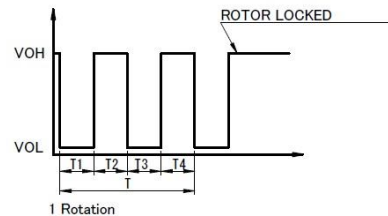
#### 3. The condition for PWM control are as follows.

- When you use this under PWM control, always be sure the motor's operation under practical mounting state. Fan motor may not start up caused by PWM control at very low speed condition.
- To run at Rating Voltage.

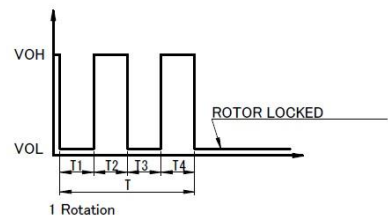
#### 3. OUTPUT WAVEFORM : AT RATED VOLTAGE

#### 4. OUTPUT SIGNAL VOLTAGE

##### 3-1 Case-1



##### 3-2 Case-2



- 1) When the rotor is locked at VOH position of signal, signal keeps VOH position.
- 2) When the rotor is locked at VOL position of signal, signal keeps VOL position.
- 3)  $T = T1 + T2 + T3 + T4 = 60/m$  / m = 1 rotation

m : min-1

Tach Duty Cycle = 50% ± 10%

## TACHO Specifications

### TACHOMETER SIGNAL

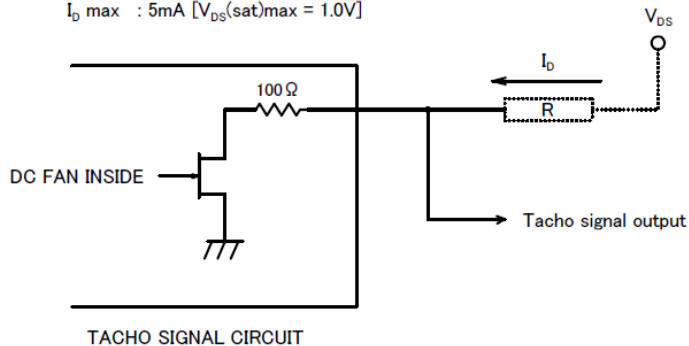
1. OUTPUT CIRCUIT : OPEN DRAIN
2. SPECIFICATION

Ta=25°C

Absolute Maximum Ratings at Ta=25°C

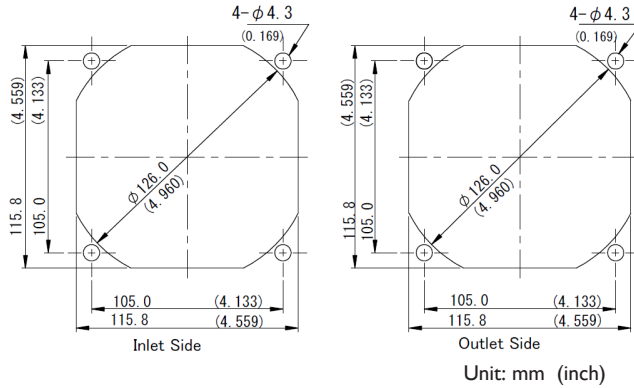
V<sub>DS</sub> max : +15V

I<sub>D</sub> max : 5mA [V<sub>DS</sub>(sat)max = 1.0V]



TACHO SIGNAL CIRCUIT

## Panel Cut-Outs

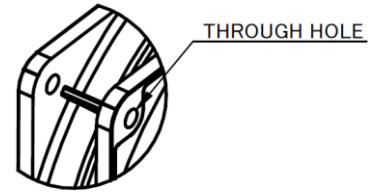
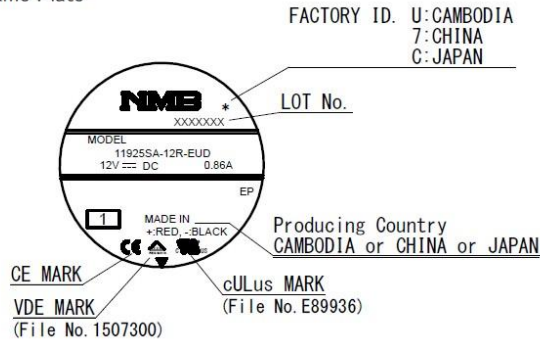


## Materials

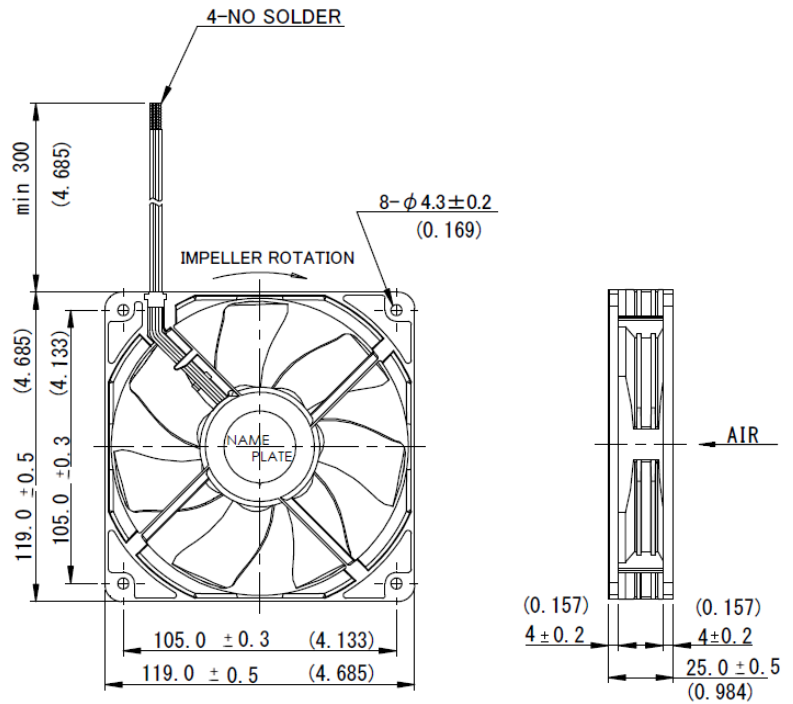
- Casing : Plastic (Black UL94V-0)
- Impeller : Plastic (Black UL94V-0)
- Bearing : Ball Bearing
- Lead Wire : UL3385 AWG26
- (+) : Red (-) : Black
- PWM : Brown Tach : White

## Outline

Name Plate



FLANGE TYPE



Unit: mm (inch)