

06025SA

DC Axial Fan Ball Bearing

60[□]X25^L

DC FAN

General purpose

Industrial

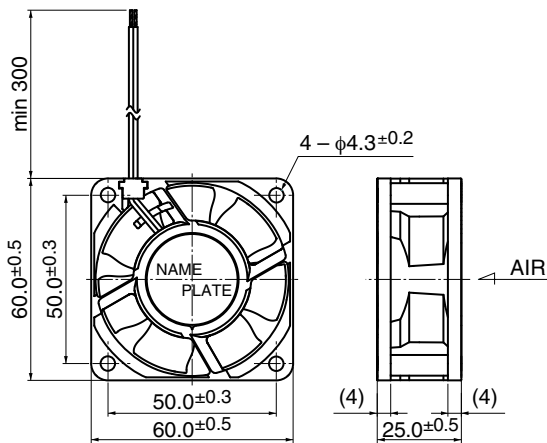
Server

Refrigerator

Blower



Outline



* Outline is A (Rib) type.

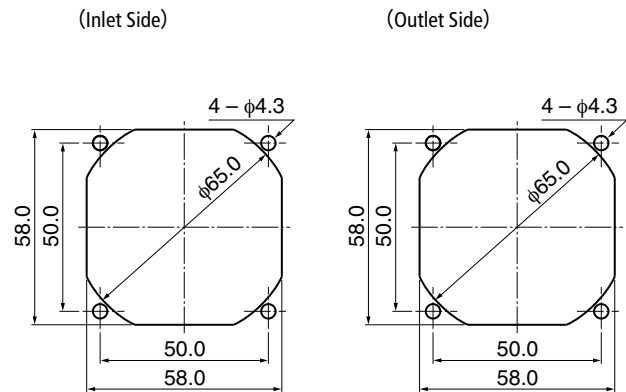
General Specifications

Motor Protection Auto Restart / Polarity Protection
 Insulation Resistance 10MΩ or over with a DC500V Megger
 Dielectric Withstand Voltage : AC700V 1s
 Allowable Ambient : -10°C ~ +70°C (Operating)
 Temperature Range -40°C ~ +70°C (Storage)
 non-condensing environment

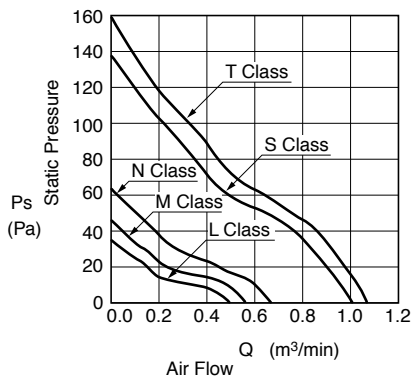
Expected Life ※ Failure Rate: 10% (L10 Life)

60°C 40,000 (Hours) (L~N Class)
 60°C 35,000 (Hours) (S Class)
 25°C 90,000 (Hours) (T Class)

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

□ = Casing Form --- A: Rib Type, E: Flange Type

Model	Product No.	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	(m ³ /min)*1	(CFM)*1	(Pa)*1	(In H ₂ O)*1	(dB)*1	(g)
06025SA-12L-□A-	D0	12	6.0 ~ 13.8	0.08	0.96	3500	0.48	16.9	35.0	0.14	23.5	65
06025SA-12M-□A-	D0			0.10	1.20	4000	0.56	19.8	46.0	0.18	27.5	
06025SA-12N-□A-	D0			0.15	1.80	4700	0.66	23.3	63.0	0.25	33.0	
06025SA-12T-□A-	D0			0.43	5.16	7500	1.07	37.8	158.5	0.63	47.0	
06025SA-24L-□A-	D0	24	12.0 ~ 27.6	0.04	0.96	3500	0.48	16.9	35.0	0.14	23.5	
06025SA-24M-□A-	D0			0.06	1.44	4000	0.56	19.8	46.0	0.18	27.5	
06025SA-24N-□A-	D0			0.08	1.92	4700	0.66	23.3	63.0	0.25	33.0	
06025SA-24S-□A-	D0			0.17	4.08	7000	1.01	35.7	138.0	0.55	42.5	

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 Ω or over with a DC500V Megger

Dielectric Withstand Voltage:

AC 700V 1s or 500V 1min

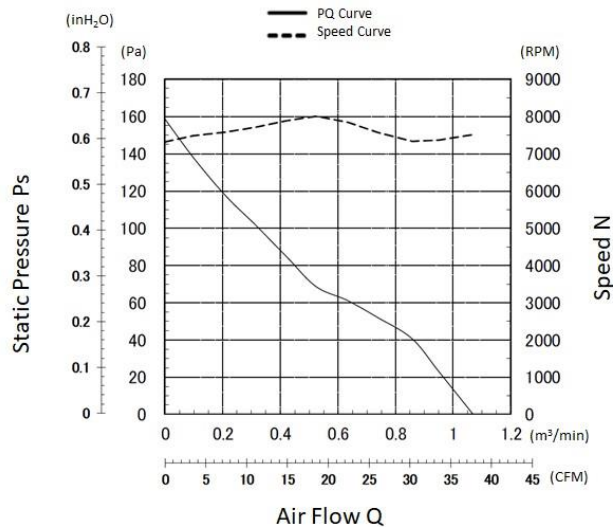
Allowable Ambient Temperature Range:

-10°C ~ +70°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

25°C 90,000 Hours

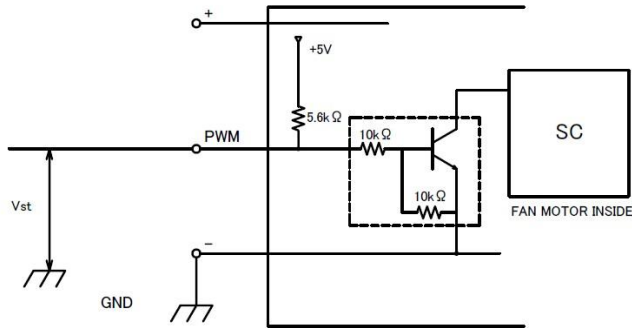
Specifications

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^3/min)	(inH ₂ O)	(Pa)		
	(V)	(V)	(A) ^{*1}	(A) ^{*1}	(W) ^{*1}	(W) ^{*1}	(min^{-1}) ^{*1}	(CFM)	(m^3/min)	(inH ₂ O)	(Pa)	(dB) ^{*1}	(g)
06025SA-12T-AU-D3	12	10.8 ~ 13.2	0.43	0.66	5.16	7.92	7500	37.8	1.07	0.64	158.5	47.0	65

*1: Values in Free Air

PWM Specifications

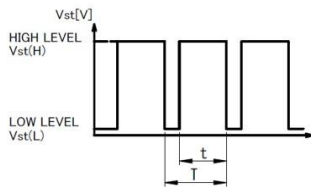
PWM CONTROL CONNECTION



1. PWM Control

- V_{st} = Low Level (0V~0.4V) → Low Speed(On Duty 0%)
- V_{st} = High Level (4.0V~5.0V) → Full Speed(On Duty 100%)
- V_{st} = Open → Full Speed

2. PWM Duty & PWM Input Pulse



PWM Duty means that a ration of high level time (t)/PWM Input Pulse(T).

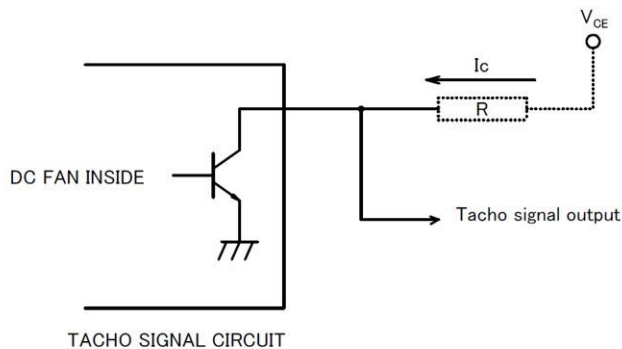
$$(t/T) \times 100 : \text{On Duty } 0\% \sim 100\%$$

PWM Frequency $f = 25[\text{kHz}]$

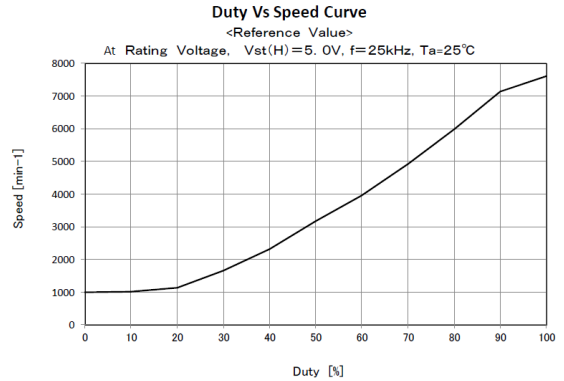
TACHO Specifications

TACHOMETER SIGNAL

1. OUTPUT CIRCUIT : OPEN COLLECTOR
2. SPECIFICATION
T_a=25°C
Absolute Maximum Ratings at T_a=25°C
V_{CE} max : +15V
I_c max : 5mA [V_{CE(sat)}max = 0.5V]



PWM Characteristics Curve



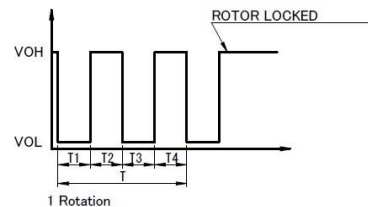
3. The condition for PWM control are as follows.

- 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.

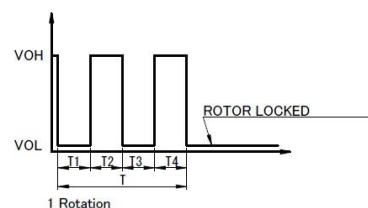
3. OUTPUT WAVEFORM : AT RATED VOLTAGE

OUTPUT SIGNAL VOLTAGE

3-1 Case-1



3-2 Case-2

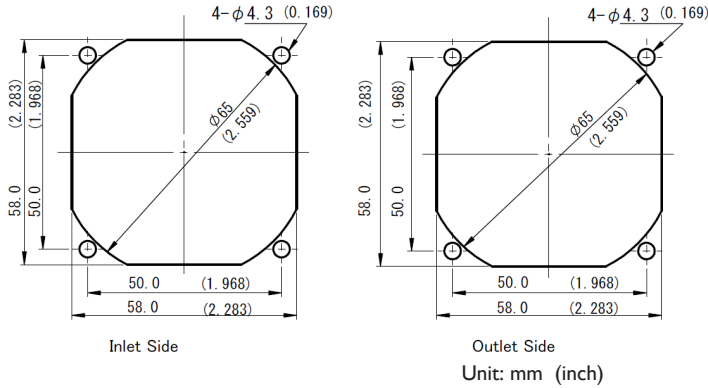


- 1) When the rotor is locked at VOH position of signal, signal keeps VOH position.
- 2) When the rotor is locked at VOL position of signal, signal keeps VOL position.
- 3) $T = T1 + T2 + T3 + T4 = 60/m$ / m = 1 rotation

m : min - 1

Tach Duty Cycle = 50% ± 10%

Panel Cut-Outs

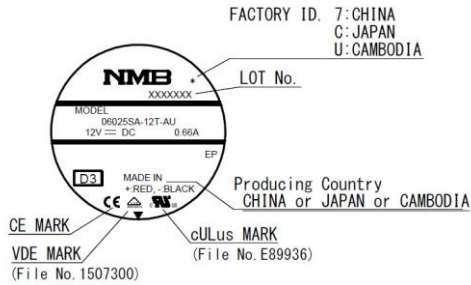


Materials

- Casing : Plastic (Black UL94V-0)
- Impeller : Plastic (Black UL94V-0)
- Bearing : Ball Bearing
- Lead Wire : UL10368 AWG26
 - (+) : Red (-) : Black
 - PWM : Brown Tach : White

Outline

Name Plate



RIB TYPE

