

# 06023GS (Three Phase)

Φ60X23<sup>L</sup>

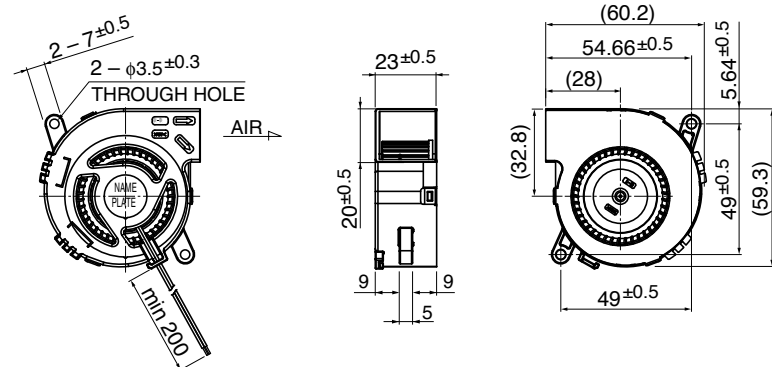
## DC Blower Fan



### ■ 一般仕様 General Specifications

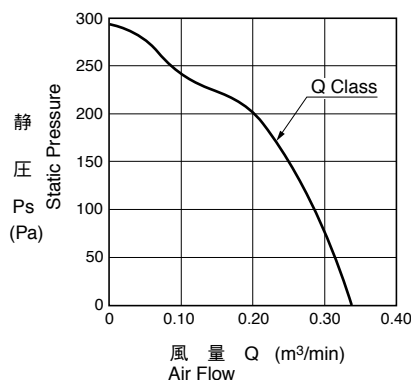
モーター保護 : 自動復帰方式  
 Motor Protection : Auto Restart / Polarity Protection  
 絶縁抵抗 : DC500V メガにて10MΩ以上  
 Insulation Resistance : 10MΩ or over with a DC500V Megger  
 絶縁耐圧 : AC700V 1s  
 Dielectric Withstand Voltage  
 許容環境温度範囲 : -10°C ~ +60°C (Operating)  
 Allowable Ambient Temperature Range : -40°C ~ +70°C (Storage)  
 実用上さしつかえない状態で結露無きこと  
 non-condensing environment

### ■ 外観図 Outline



**■ 期待できる寿命 Expected Life** ※故障率 10% (L10 Life)  
 ※ Failure Rate: 10% (L10 Life)  
 60°C 20,000 時間 (Hours)

### ■ 特性曲線 Characteristic Curves



### ■ 材質 Material

ケーシング : プラスチック(ブラック) UL94V-0  
 インペラー : プラスチック(ブラック) UL94V-0  
 軸受 : スリーブベアリング  
 リード線 : UL1061 AWG26 + : 赤 - : 黒  
 Casing : Plastic (Black) UL94V-0  
 Impeller : Plastic (Black) UL94V-0  
 Bearing : Sleeve Bearing  
 Lead Wire : UL1061 AWG26 + : Red, - : Black

### ■ 仕様 Specifications

型式 Model	管理番号 Product No.	定格電圧	使用電圧範囲	定格電流	定格入力	定格回転速度	最大風量	最大静圧	騒音	質量
		Rating Voltage (V)	Operating Voltage (V)	Current (A)*1	Input Power (W)*1	Speed (min <sup>-1</sup> )*1	Max. Air Flow (m <sup>3</sup> /min)*1 (CFM)*1	Max. Static Pressure (Pa)*1 (In H <sub>2</sub> O)*1	Noise (dB)*1	Mass (g)
06023GS-12Q-AE-	00	12	7.0 ~ 12.6	0.32	3.84	6000	0.34 11.9	294.0 1.17	43.5	52

回転方向 : ラベルから見て時計方向

Rotation: Clockwise as seen from the label side

\*1: Average Values in Free Air

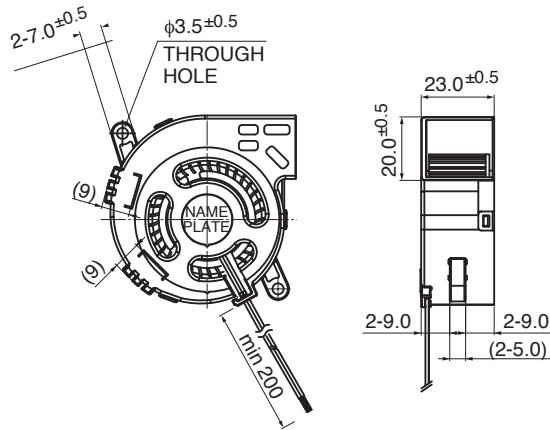
# 06023GS (Single Phase)

Φ60X23<sup>L</sup>

## DC Blower Fan



### Outline



### General Specifications

Motor Protection Auto Restart / Polarity Protection Insulation Resistance  
10MΩ or over with a DC500V Megger

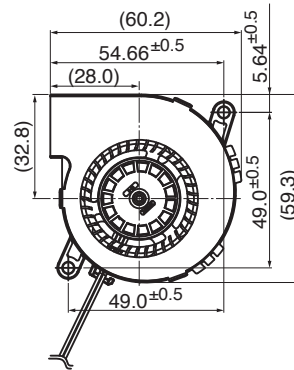
Dielectric Withstand Voltage : AC700V 1s

Allowable Ambient : -10°C ~ +70°C (Operating)

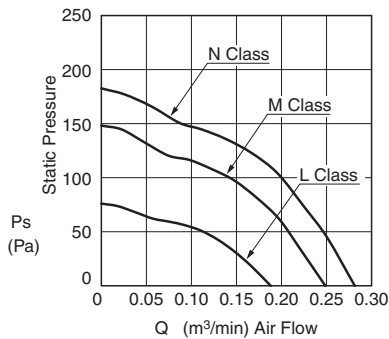
Temperature Range -40°C ~ +70°C (Storage)  
non-condensing environment

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

60°C 20,000 (Hours)



### Characteristic Curves



### Material

Casing Lower : Plastic (Black) UL94V-0  
Impeller : Plastic (Black) UL94V-0  
Bearing : Sleeve Bearing  
Lead Wire : UL1061 AWG26 + : Red, - : Black

### Specifications

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 <sup>-1</sup> )*1	(m <sup>3</sup> /min)*1	(CFM)*1	(Pa)*1	(In H <sub>2</sub> O)*1	(dB)*1	(g)
06023GS-12L-AAE	0	12	7.0 ~ 13.8	0.07	0.84	3500	0.18	6.4	75	0.30	28.0	51
06023GS-12M-AAE	0			0.17	2.04	4500	0.24	8.5	145	0.58	36.0	
06023GS-12N-AAE	0		7.0 ~ 13.2	0.24	2.88	5000	0.28	9.9	180	0.72	39.0	

Rotation: Clockwise as seen from the label side

\*1: Average Values in Free Air

## General Specifications

**Motor Type:** Three Phase DC Brushless Motor

**Motor Protection:**

Auto Restart

**Insulation Resistance:**

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

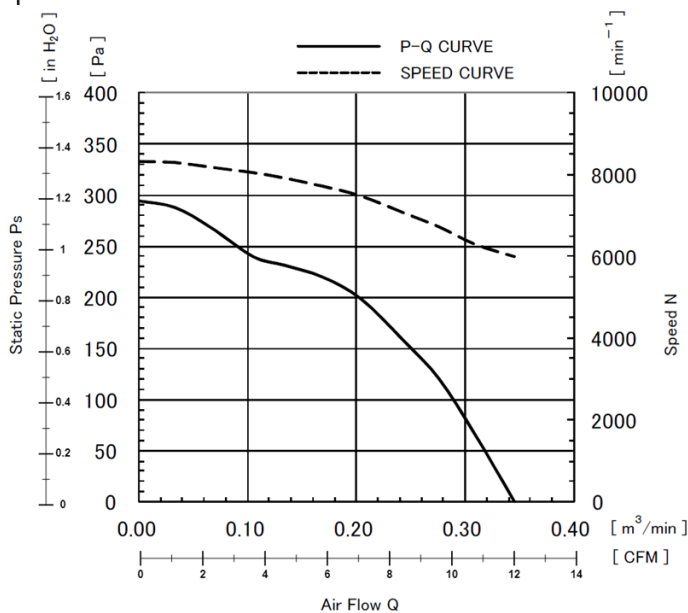
**Dielectric Withstand Voltage:**

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



## DC Blower Fan Benefits & Applications

### DC Blower

With high static pressure, NMB centrifugal blowers are suitable for cooling electronic systems generating lots of heat and high impedance from back pressure. A DC blower contains a circular impeller within an enclosed cage, which is often referred to as a “squirrel cage”. This design allows DC Blowers to create directed airflow under high pressure conditions. A DC Blower has a more concentrated airflow in which the equipment pulls air in from the sides and forces it out at a concentrated 90° angle.

### Benefits

- High pressure and high airflow
- Cost savings with sleeve bearing, yet reliable
- Concentrated airflow to effectively cool target
- Smooth PQ curve with no knee

### Applications

- Factory Automation
- Humidifiers
- Telecomm
- OA Equipment
- Network Servers
- Home Appliances
- Medical Devices

## Life Expectancy L10

60°C 20,000 Hours

## Specifications

MODEL	Rating Voltage (V)	Operating Voltage (V)	Current (A)*1		Input Power (W)*1		Speed (min <sup>-1</sup> )*1	Max. Air Flow		Max. Static Pressure		Noise (dB)*1	Mass (g)
			Avg	Max	Avg	Max		(CFM)	(m³/min)	(in H <sub>2</sub> O)	(Pa)		
06023GS-12Q-AE-00	FG	7.0 ~ 12.6	0.32	0.42	3.84	5.04	6000	12.01	0.34	1.18	294	43.5	52

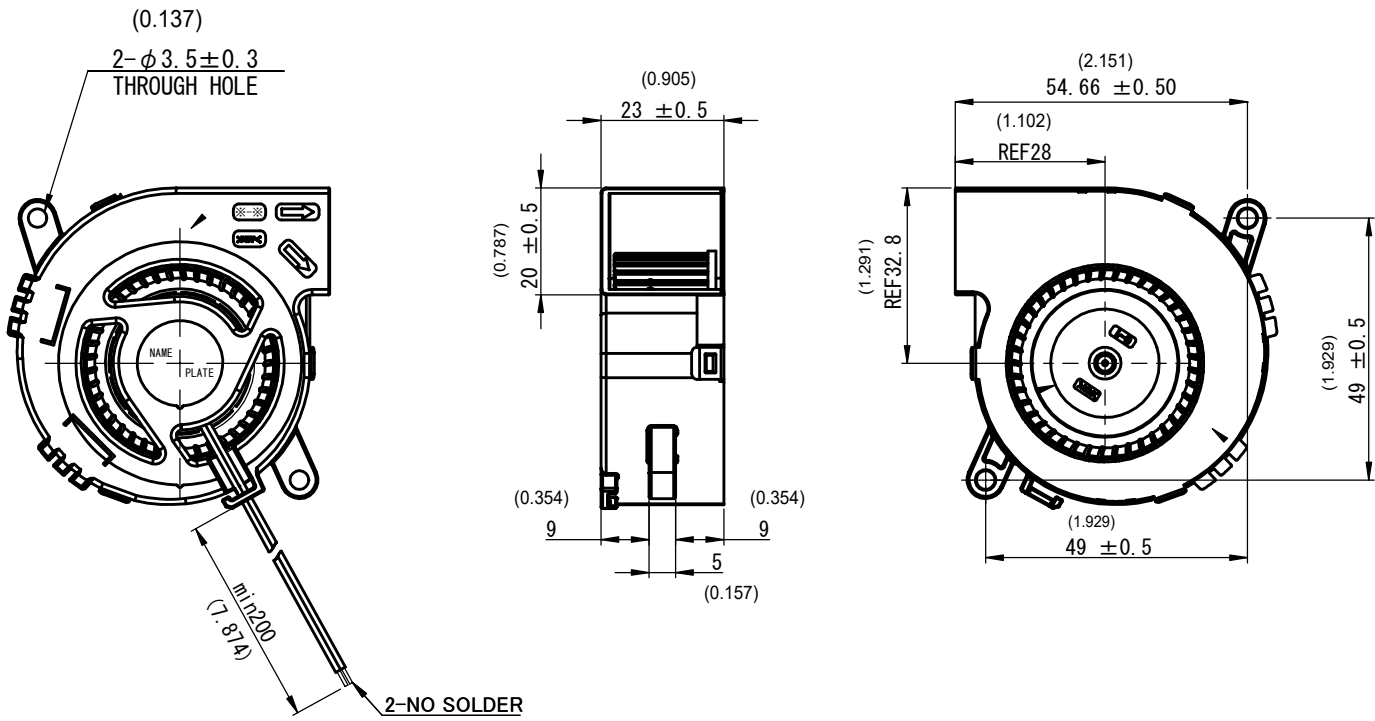
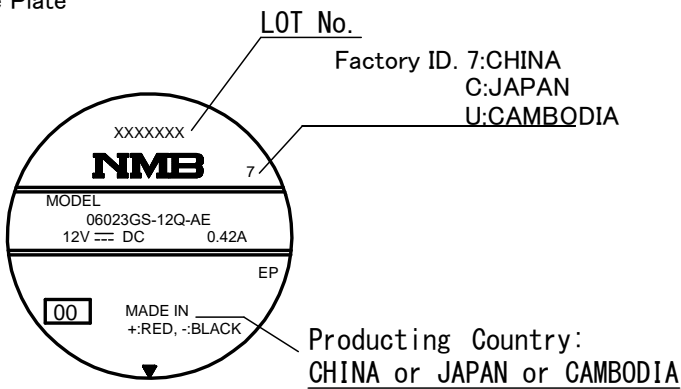
\*1: Values in Free Air

## Materials

- Casing : Plastic (Black UL94V-0)
- Casing Upper : Steel
- Impeller : Plastic (Black UL94V-0)
- Bearing : Sleeve Bearing (+) : Red (-) : Black
- Lead Wire : UL1061 AWG26

## Outline

Name Plate



Unit: mm (inch)

## 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

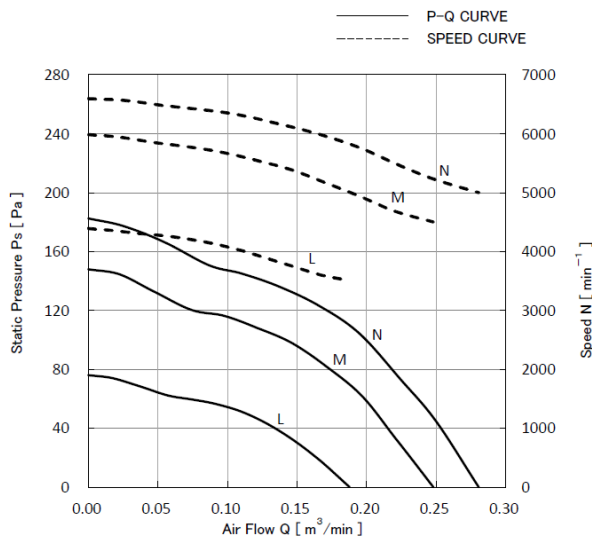
**Dielectric Withstand Voltage:**

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



## DC Blower Benefits & Applications

### DC Blower

With high static pressure, NMB centrifugal blowers are suitable for cooling electronic systems generating lots of heat and high impedance from back pressure. A DC blower contains a circular impeller within an enclosed cage, which is often referred to as a “squirrel cage”. This design allows DC Blowers to create directed airflow under high pressure conditions. A DC Blower has a more concentrated airflow in which the equipment pulls air in from the sides and forces it out at a concentrated 90° angle.

### Benefits

- High pressure and high airflow
- Cost savings with sleeve bearing, yet reliable
- Concentrated airflow to effectively cool target
- Smooth PQ curve with no knee
- Tacho Signal output for speed monitoring

### Applications

- Factory Automation
- Humidifiers
- Telecomm
- OA Equipment
- Network Servers
- Home Appliances
- Medical Devices

## Life Expectancy L10

60°C 20,000 Hours

## Specifications

MODEL	Rating Voltage (V)	Operating Voltage (V)	Current		Input Power		Speed (min <sup>-1</sup> )*1	Max. Air Flow		Max. Static Pressure		Noise (dB)*1	Mass (g)
			Avg (A)*1	Max (A)*1	Avg (W)*1	Max (W)*1		(CFM)	(m <sup>3</sup> /min)	(in H <sub>2</sub> O)	(Pa)		
06023GS-12L-ATE-0	FG	7.0 ~ 13.8	0.07	0.10	.84	1.20	3500	6.36	0.18	0.30	75	28.0	51
06023GS-12M-ATE-0			0.17	0.22	2.04	2.64	4500	8.83	0.24	0.58	145	36.0	
06023GS-12N-ATE-0			0.24	0.32	2.88	3.84	5000	9.89	0.28	0.72	180	39.0	

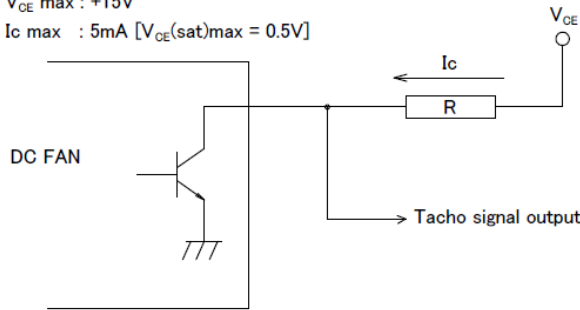
\*1: Values in Free Air

## TACHO Specifications

### TACHOMETER SIGNAL

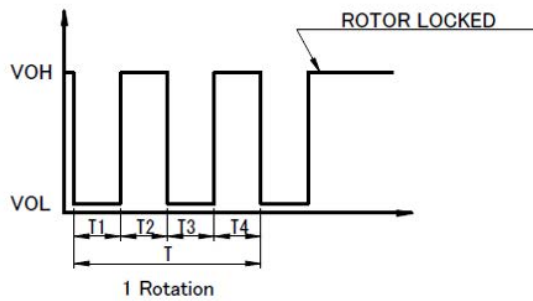
1. OUTPUT CIRCUIT : OPEN COLLECTOR
2. Specification

$T_a=25^\circ\text{C}$   
 Absolute Maximum Ratings at  $T_a=25^\circ\text{C}$   
 $V_{CE\text{ max}} : +15\text{V}$   
 $I_c\text{ max} : 5\text{mA}$  [ $V_{CE(\text{sat})\text{max}} = 0.5\text{V}$ ]

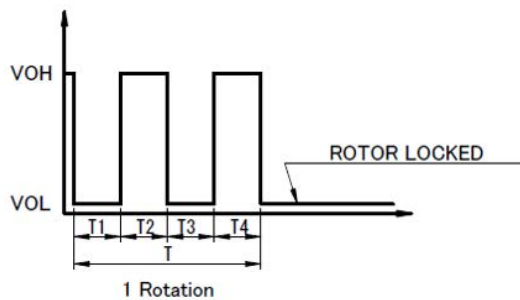


3. OUTPUT WAVEFORM : AT RATED VOLTAGE
4. OUTPUT SIGNAL VOLTAGE

#### 3-1 Case-1



#### 3-2 Case-2



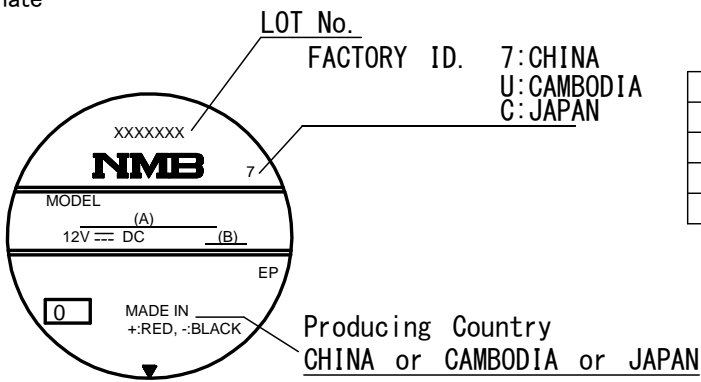
- 1) When the rotor is locked at VOH position of signal, signal keeps VOH position.
- 2) When the rotor is locked at VOL position of signal, signal keeps VOL position.
- 3)  $T=T_1+T_2+T_3+T_4=60/m = 1\text{ rotation}$   
 $m : \text{Fan Rotation Speed}(\text{min}^{-1})$   
 Tach Duty Cycle=50%±10%

## Materials

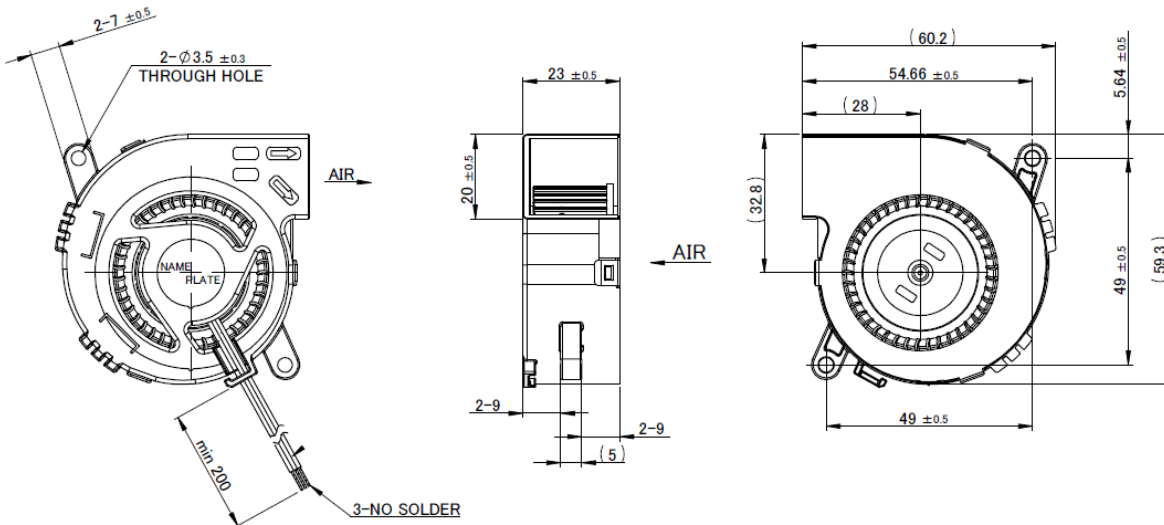
- Casing : Plastic (Black UL94V-0)
- Casing Upper : Steel
- Impeller : Plastic (Black UL94V-0)
- Bearing : Sleeve Bearing
- Lead Wire : UL1061 AWG26 (+) : Red (-) : Black Tach : White

## Outline

Name Plate



(A)	(B)
Model Name	Current
06023GS-12L-ATE	0.10
06023GS-12M-ATE	0.22
06023GS-12N-ATE	0.32



Unit: mm (inch)