

# San Ace 70 GA type

## Low Power Consumption Fan

### ■ Features

#### Low Power Consumption

Realizes a low power consumption of 31.2 W.\*

#### High Static Pressure and High Air Flow

Achieves a maximum static pressure of 860 Pa, and a maximum air flow of 2.65 m<sup>3</sup>/min.\*

#### Suitable for 2U Devices

Measuring 70 mm square, this new fan is ideal for 2U sized equipment.

\* : Specification of Model No. 9GA0712P1G001. When PWM duty cycle is 100%.



## 70×70×38mm

### ■ Specifications

Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM Duty Cycle [%] <sup>Note1)</sup>	Rated Current [A]	Rated Input [W]	Rated Speed [min <sup>-1</sup> ]	Max. Air Flow [m <sup>3</sup> /min] [CFM]	MAX. Static Pressure [Pa] [inchH2O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life <sup>Note2)</sup> [h]
9GA0712P1G001(0011)	12	10.8 to 13.2	100	2.6	31.2	16,500	2.65 93.6	860 3.45	65	-10 to +70	40,000/60°C (70,000/40°C)
0			0.16	1.92	4,400	0.70 24.7	61 0.24	30			
9GA0712P1H001(0011)			100	1.1	13.2	12,000	1.92 67.8	455 1.83	57		
0			0.07	0.84	2,500	0.40 14.1	20 0.08	19			

The numbers in ( ) represent ribless models

Note1 : PWM Frequency : 25kHz

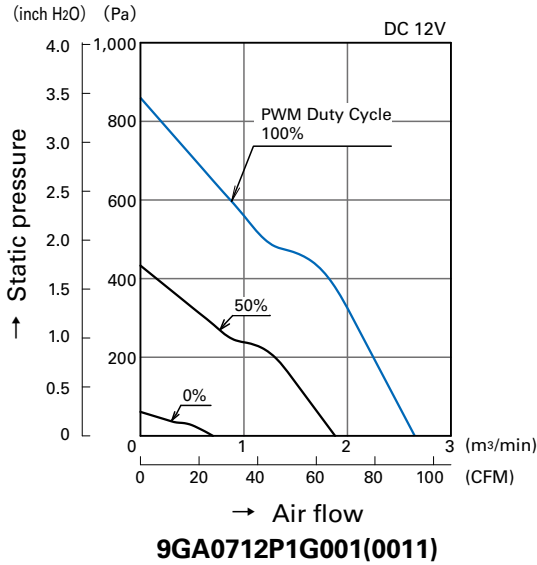
Note2 : Expected life at 40 degreeC ambient is just reference value.

### ■ Common Specifications

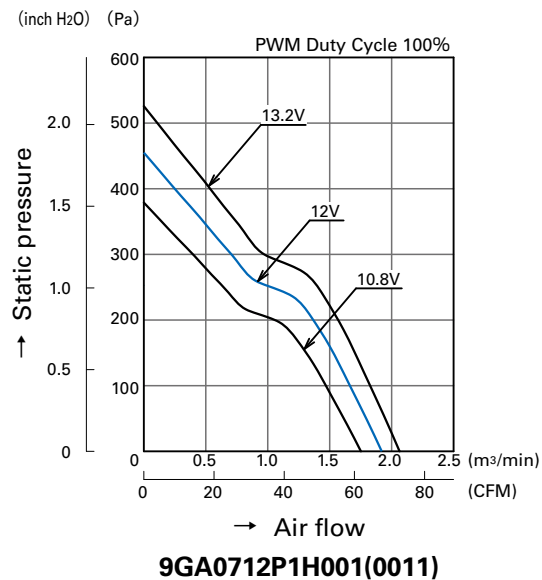
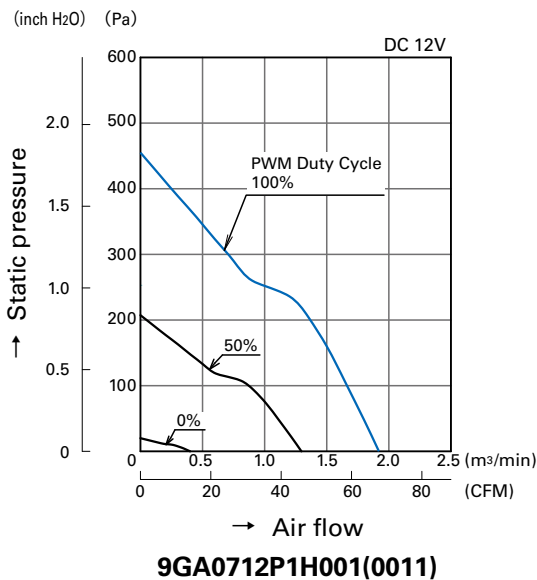
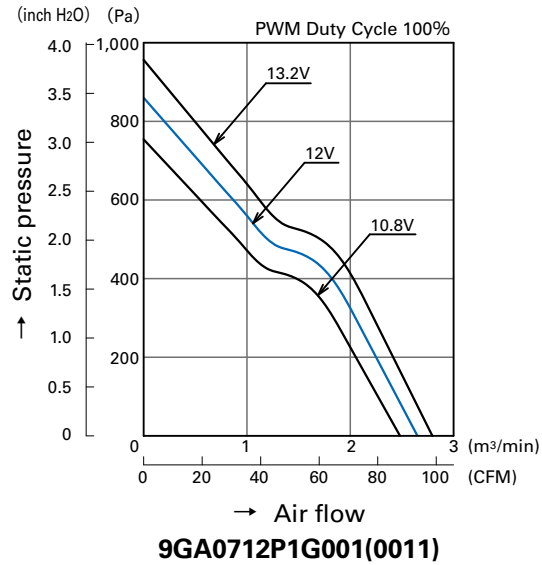
- Material ..... Frame, Impeller : Plastics (Flammability: UL94V-0)
- Expected Life ..... Varies for each model  
(L10: Survival rate: 90% at 60°C, rated voltage, and continuously run in a free air state)
- Motor Protection System ..... Current blocking function and Reverse polarity protection
- Dielectric Strength ..... 50/60 Hz, 500VAC, 1 minute (between lead conductor and frame)
- Sound Pressure Level (SPL) ..... Expressed as the value at 1m from air inlet side
- Operating Temperature ..... Varies for each model (Non-condensing)
- Storage Temperature ..... -30°C to +70°C (Non-condensing)
- Lead Wire ..... ⊕Red ⊖Black Sensor: Yellow Control: Brown
- Mass ..... Approx. 170g

## Air Flow - Static Pressure Characteristics

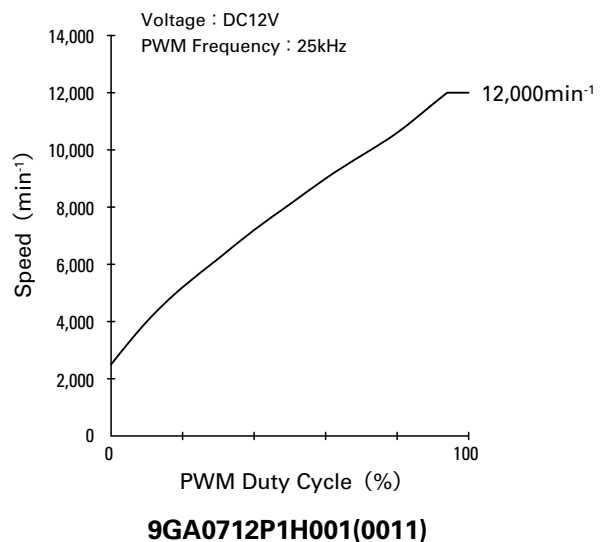
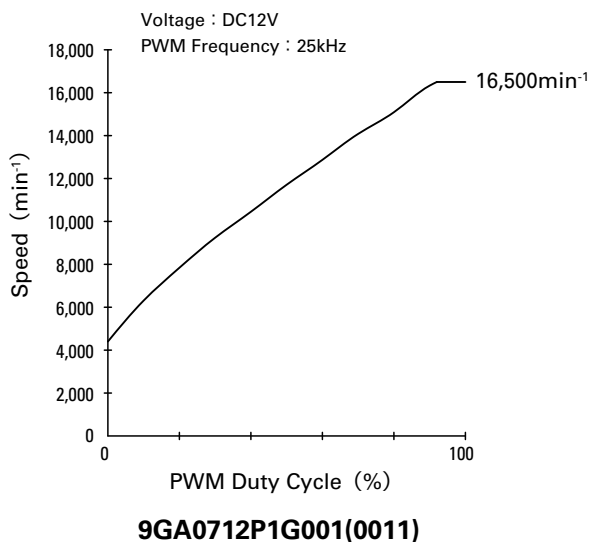
- PWM Duty Cycle



- Operating Voltage Range

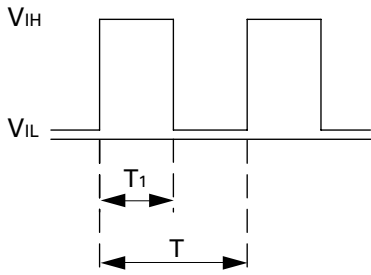


## PWM Duty - Speed Characteristics Example



**PWM Input Signal Example**

Input Signal Waveform



$V_{IH}=4.75V$  to  $5.25V$

$V_{IL}=0V$  to  $0.4V$

PWM Duty Cycle (%) =  $\frac{T_1}{T} \times 100$

PWM Frequency 25 (kHz) =  $\frac{1}{T}$

Source Current ( $I_{source}$ ) : 1mA Max. at control voltage 0V

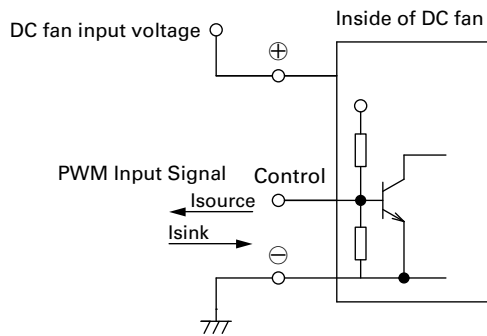
Sink Current ( $I_{sink}$ ) : 1mA Max. at control voltage 5.25V

Control Terminal Voltage : 5.25V Max. (Open Circuit)

When the control lead wire is open, speed is same as one at 100% PWM duty cycle.

This fan speed should be controlled by PWM input signal of either TTL input or open collector, drain input.

**Example of Connection Schematic**

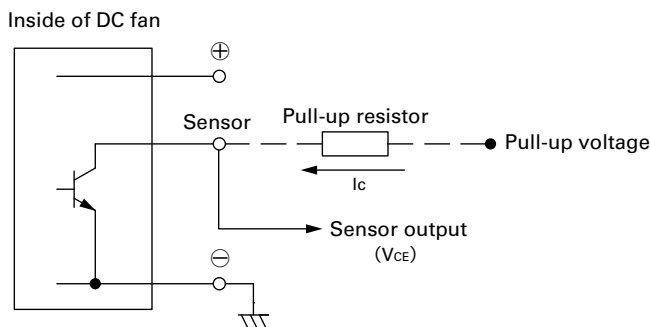


**Specifications for Pulse Sensors**

Output circuit : Open collector

$V_{CE} = +13.8V$  MAX.

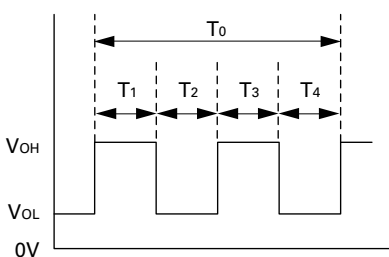
$I_c = 5mA$  MAX. [ $V_{CE(SAT)} = 0.6V$  MAX.]



Output Waveform (Need pull-up resistor)

In case of steady running

(One revolution)

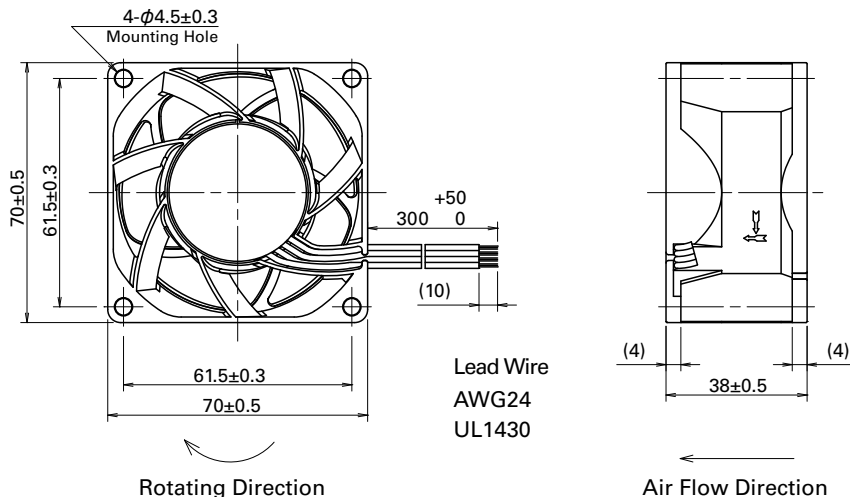


$T_{1\sim 4} \doteq (1/4) T_0$

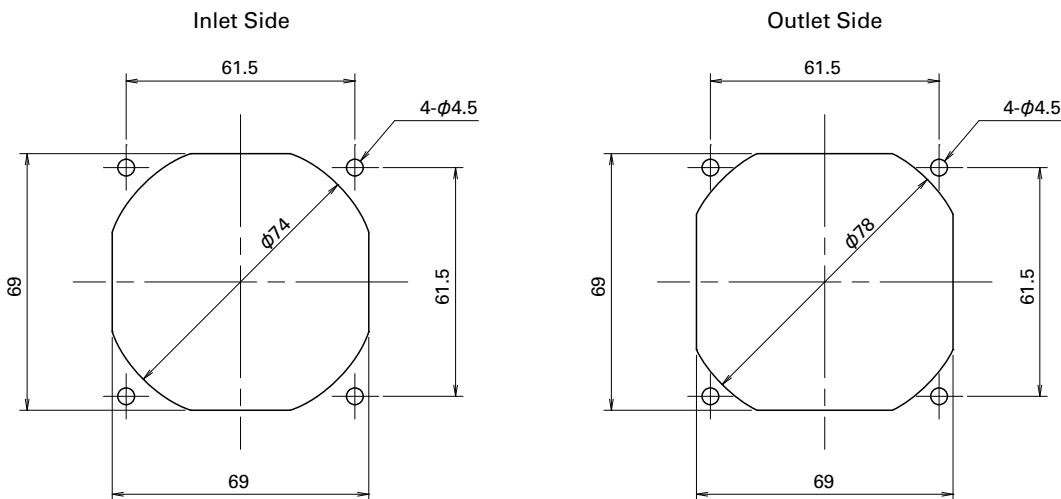
$T_{1\sim 4} \doteq (1/4) T_0 = 60/4N$  (sec)

$N = \text{Fan speed (min}^{-1}\text{)}$

**Dimensions (unit : mm)** (With ribs)



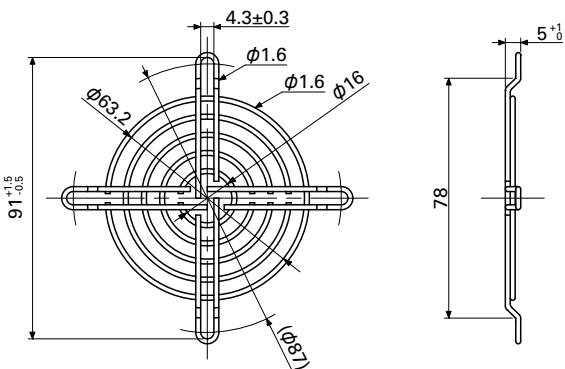
**Reference Dimension of Mounting Holes and Vent Opening (unit : mm)**



**Option**

Finger guards  
Model : 109-1128 Surface treatment : Nickel-chrome plating Color (silver)

Inlet Side, Outlet Side



●The products shown in the catalog are subject to Japanese Export Control Law. Diversion contrary to the law of exporting country is prohibited.  
●To protect against electrolytic corrosion that may occur in locations with strong electromagnetic noise, we provide fans that are unaffected by electrolytic corrosion.