

# San Ace 80 GA type

## Low Power Consumption Fan

### Features

#### Low Power Consumption

Power consumption is reduced by approximately 35% compared with our conventional product.\*1

#### High Air Flow and High Static Pressure

Maximum air flow increased by approximately 1.2 times and maximum static pressure increased by approximately 1.7 times compared with our conventional product.\*2

#### Low Noise

Sound pressure level is reduced by 2 dB(A) compared with our conventional product.\*1



\*1: Specification of Model No. 9GA0812P7S001.  
Our conventional product is 80 x 80 x 15 mm "San Ace 80", Model No. 9PH0812P7S06.  
\*2: Specification of Model No. 9GA0812P7G001.  
Our conventional product is 80 x 80 x 15 mm "San Ace 80", Model No. 9PH0812P7S06.

## 80x80x15mm

### Specifications

With PWM control function · With pulse sensor

Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM Duty Cycle [Note1] [%]	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] [inch H <sub>2</sub> O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [Note2] [h]
9GA0812P7G001	12	10.2 to 13.8	100	0.29	3.48	6,100	1.44 50.9	84.0 0.34	41	-20 to +70	40,000/60°C (70,000/40°C)
9GA0812P7S001			100	0.17	2.04	5,000	1.18 41.7	56.4 0.23	37		
9GA0824P7G001	24	20.4 to 27.6	100	0.13	3.12	6,100	1.44 50.9	84.0 0.34	41		
9GA0824P7S001			100	0.08	1.92	5,000	1.18 41.7	56.4 0.23	37		

Note1 : PWM Frequency : 25kHz Fans do not rotate when PWM duty cycle is 0%.  
Note2 : Expected life at 40°C ambient is just reference value.

With pulse sensor

Model No.	Rated Voltage [V]	Operating Voltage Range [V]	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] [inch H <sub>2</sub> O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [Note] [h]
9GA0812H7001	12	6 to 13.2	0.09	1.08	3,800	0.89 31.4	32.6 0.13	29	-20 to +70	40,000/60°C (70,000/40°C)
9GA0824H7001	24	12 to 26.4	0.05	1.20	3,800	0.89 31.4	32.6 0.13	29		

Note : Expected life at 40°C ambient is just reference value.

### Common Specifications

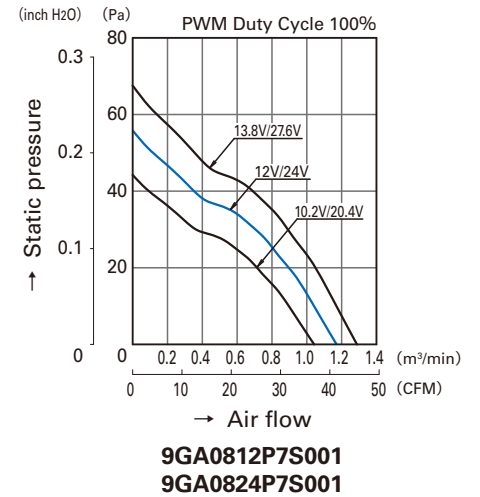
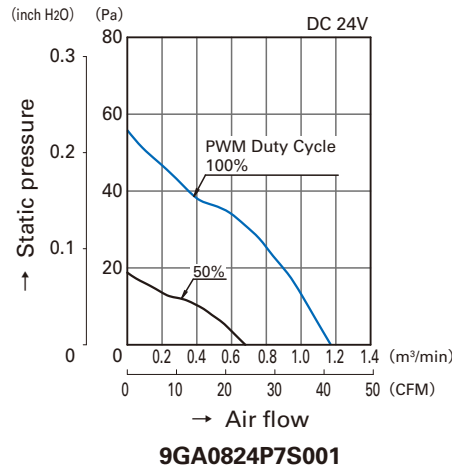
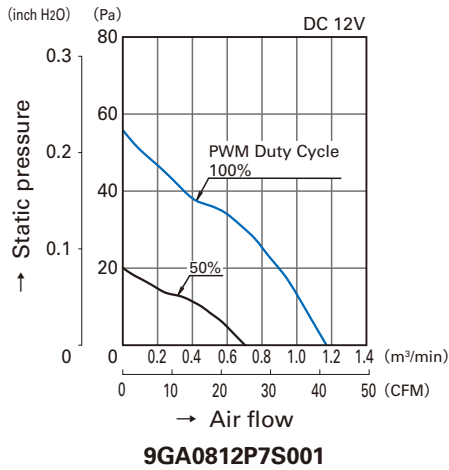
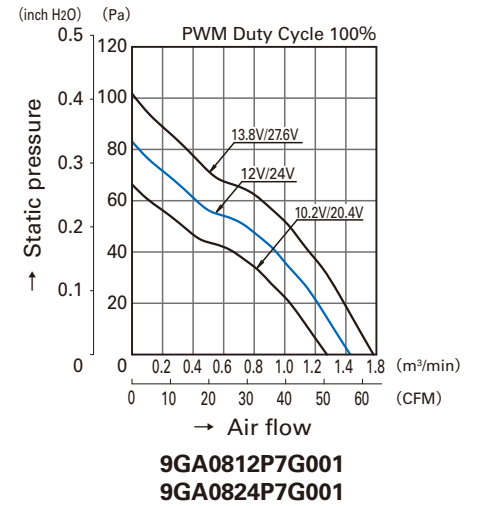
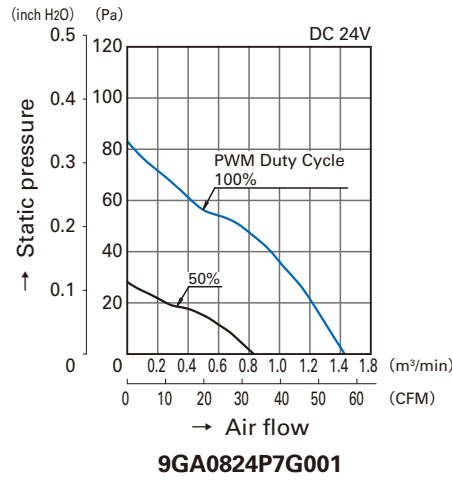
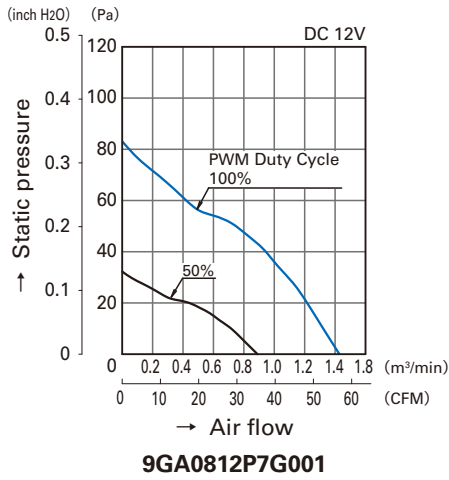
- Material ..... Frame, Impeller : Plastics (Flammability: UL94V-0)
- Expected Life ..... Varies for each model  
(L10: Survival rate: 90% at 60°C, rated voltage, and continuously run in a free air state)
- Motor Protection System ..... Current blocking function and Reverse polarity protection
- Dielectric 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(With PWM control function): Brown
- Mass ..... Approx. 65g

## Air Flow - Static Pressure Characteristics

With PWM control function · With pulse sensor

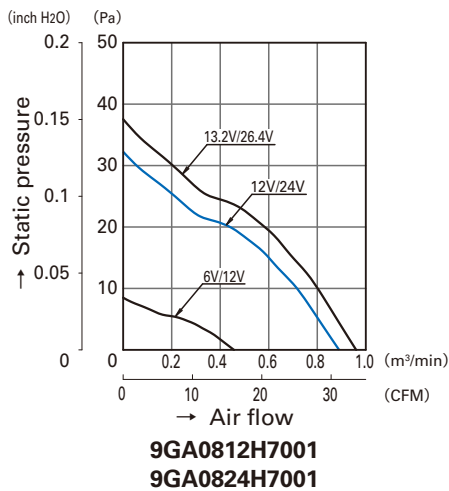
· PWM Duty Cycle

· Operating Voltage Range

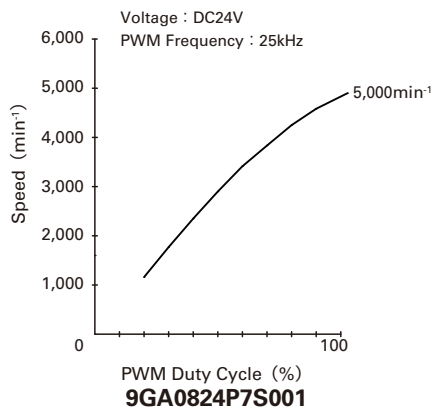
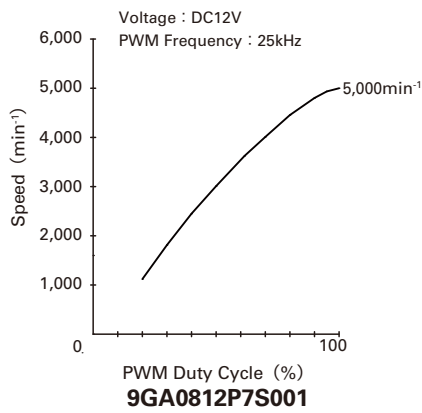
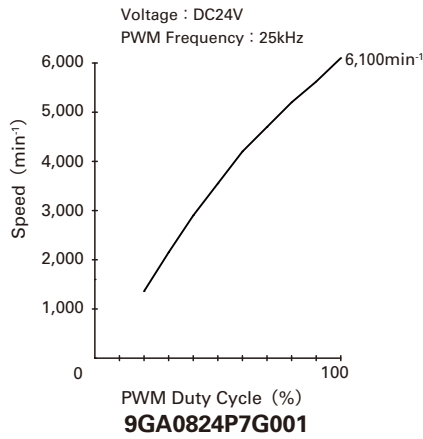
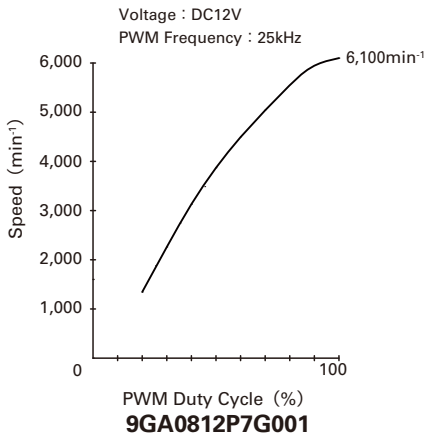


With pulse sensor

· Operating Voltage Range

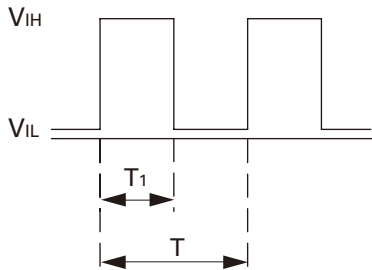


**PWM Duty - Speed Characteristics Example**



**PWM Input Signal Example**

Input Signal Waveform



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

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

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

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

Source Current : 1mA Max. at control voltage 0V

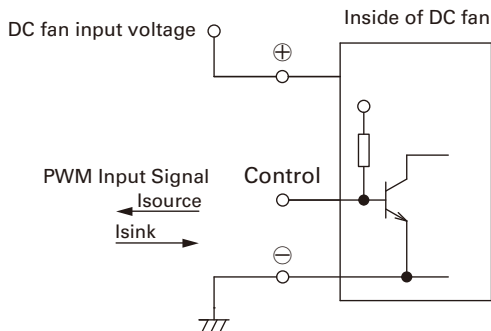
Sink Current : 1mA Max. at control voltage 5.25V

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

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

Either TTL input, open collector or open drain can be used for PWM control input signal. Fans do not rotate when PWM duty cycle is 0%.

**Example of Connection Schematic**



## Specifications for Pulse Sensors

Output circuit : Open collector

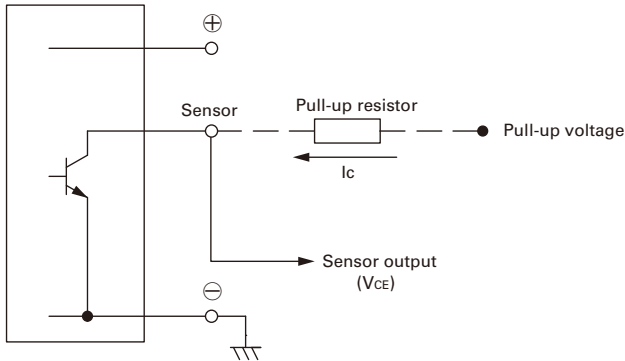
### Rated Voltage 12V Fan

$V_{CE} = +13.8V$  MAX.  
 $I_c = 5mA$  MAX. [ $V_{OL} = V_{CE} (SAT) = 0.6V$  MAX.]

### Rated Voltage 24V Fan

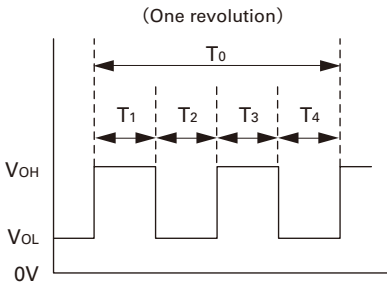
$V_{CE} = +27.6V$  MAX.  
 $I_c = 5mA$  MAX. [ $V_{OL} = V_{CE} (SAT) = 0.8V$  MAX.]

Inside of DC fan



Output Waveform (Need pull-up resistor)

In case of steady running

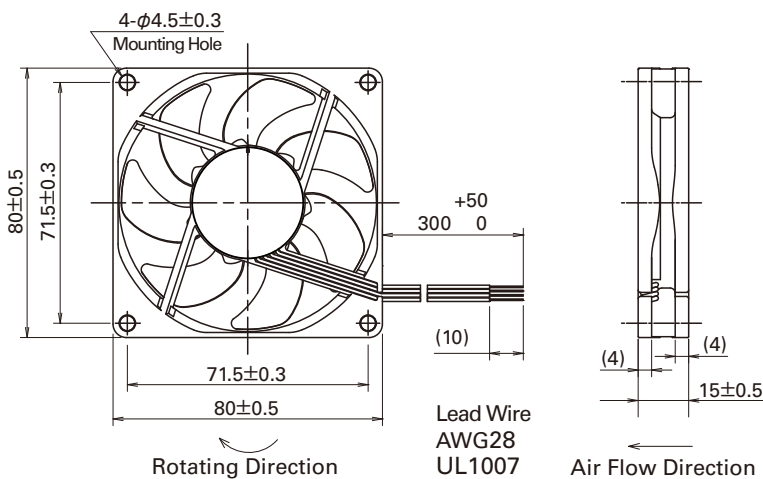


$$T_{1\sim 4} \doteq (1/4) T_0$$

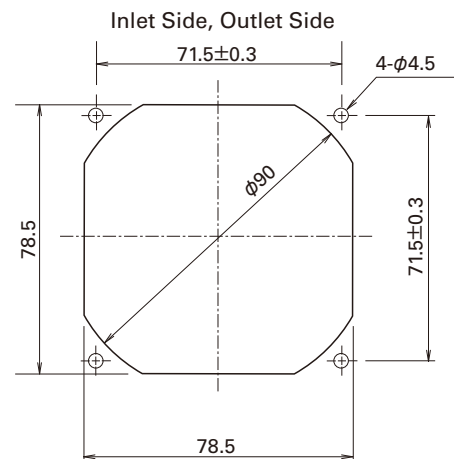
$$T_{1\sim 4} \doteq (1/4) T_0 = 60/4N \text{ (sec)}$$

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

## Dimensions (unit : mm) (With PWM control function, with pulse sensor)



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



## Notice

- 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.

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