

# San Ace 80 GA type

## Large air flow and low power consumption fan

Large air flow and low power consumption fan 80mm

### Features

#### Large air flow and high static pressure

Maximum air flow : increased by approx. 50%  
 Maximum static pressure : increased by approx. 200 %  
 compared with our conventional fan\*<sup>1,2</sup>.

#### Energy-saving

Power consumption is reduced by approx. 55 %  
 compared with our conventional fan\*<sup>1,3</sup>.

#### Low noise

Sound pressure level is reduced by approx. 5dB(A)  
 compared with our conventional fan\*<sup>1,3</sup>.



\*1 Our conventional product is the DC cooling fan  
 80 x 80 x 32 mm fan "San Ace 80" (Model No: 109P0812C201)

\*2 When model No. 9GA08\*\*P2S001(0011) is used.

\*3 When air flow and static pressure is almost identical.

## 80x80x32mm

### Specifications

Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM Duty Cycle <sup>note2</sup> [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min <sup>-1</sup> ]	Air Flow [m <sup>3</sup> /min] [CFM]	Static Pressure [Pa] [inchH <sub>2</sub> O]	SPL [dB(A)]	Operating Temperature [°C]	Life Expectancy [h]
9GA0812P2S001(0011)	12	10.2 to 13.8	100	0.83	9.96	9,700	2.45 86.5	360 1.45	57	-10 to +70	40,000
			0	0.08	0.96	2,800	0.71 25.1	30 0.12	24		
9GA0812P2H001(0011)			100	0.59	7.08	8,700	2.20 77.7	294 1.18	54		
			0	0.05	0.6	2,600	0.66 23.3	26 0.105	21		
9GA0824P2S001(0011)	24	20.4 to 27.6	100	0.42	10.1	9,700	2.45 86.5	360 1.45	57		
			0	0.05	1.2	2,800	0.71 25.1	30 0.12	24		

Note1 : The numbers in ( ) represent ribless models.

Note2 : PWM Frequency : 25kHz

### Common Specifications

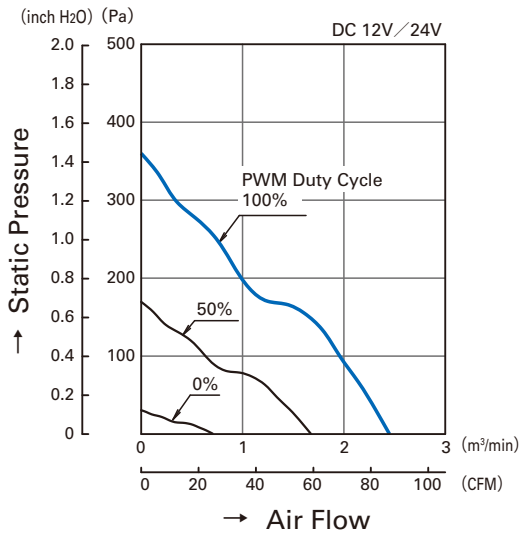
- Material ..... Frame, Impeller: Plastics (Flammability: UL94V-0)
- Life Expectancy ..... Varies for each model  
 (L10: Survival rate: 90% at 60°C, rated voltage, and continuously run in a free air state)
- Motor Protection System ..... Current blocking function and Reverse polarity protection
- Dielectric 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 Range ..... 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.130g

80mm

# San Ace 80GA<sub>type</sub>

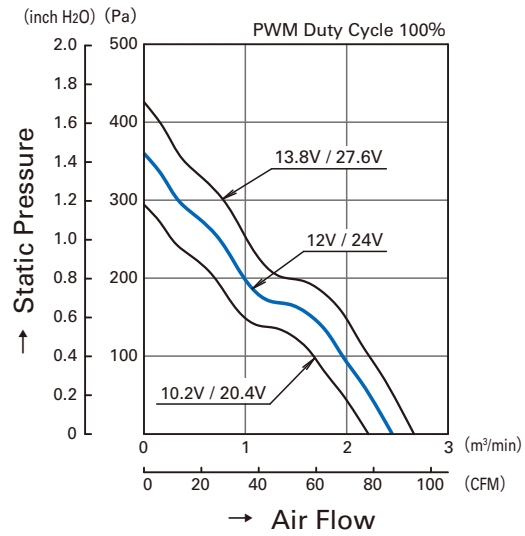
## Air Flow - Static Pressure Characteristics

### PWM Duty Cycle

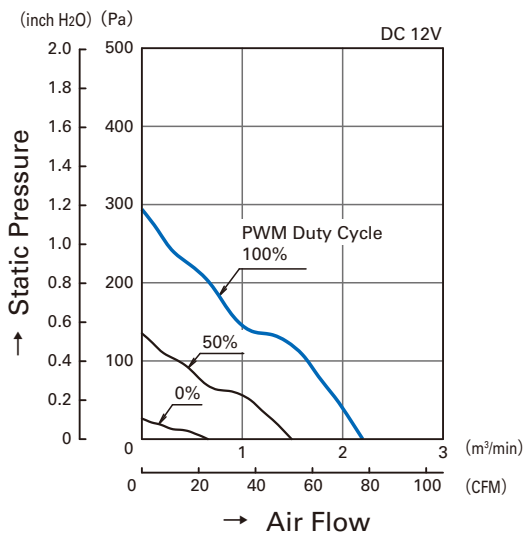


**9GA0812P2S001(0011)**  
**9GA0824P2S001(0011)**

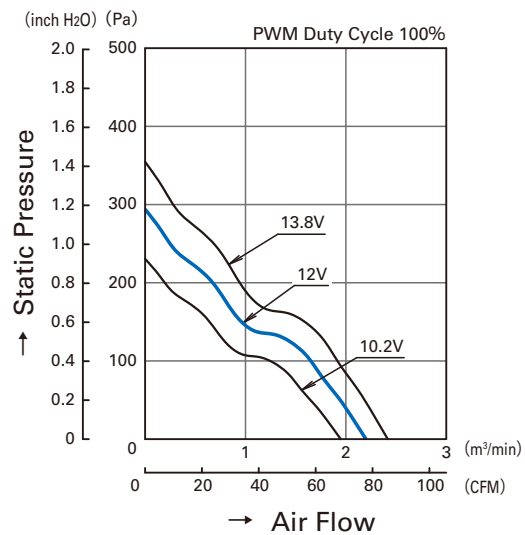
### Operating Voltage Range



**9GA0812P2S001(0011)**  
**9GA0824P2S001(0011)**

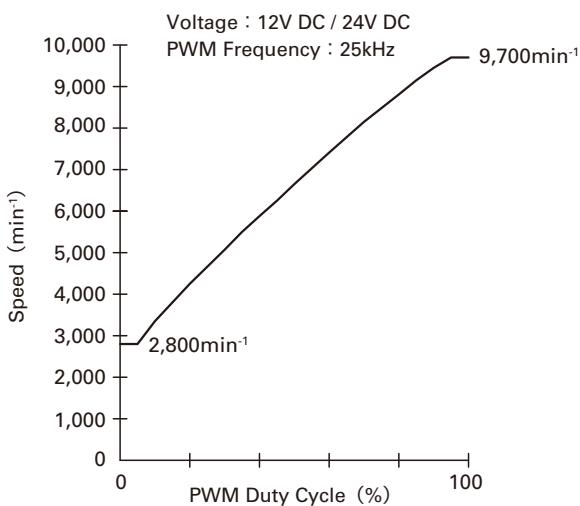


**9GA0812P2H001(0011)**

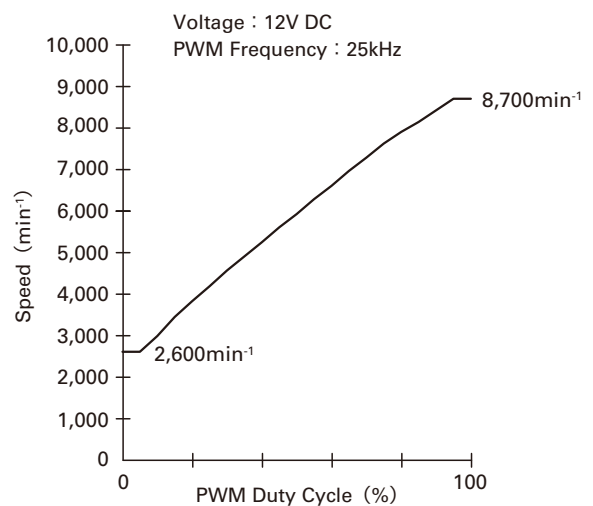


**9GA0812P2H001(0011)**

## PWM Duty - Speed Characteristics Example



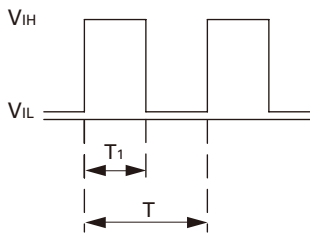
**9GA0812P2S001(0011)**  
**9GA0824P2S001(0011)**



**9GA0812P2H001(0011)**

**PWM Input Signal Example**

Input Signal Wave Form



$V_{IH}=4.75V$  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 : 1mA Max. at control voltage 0V

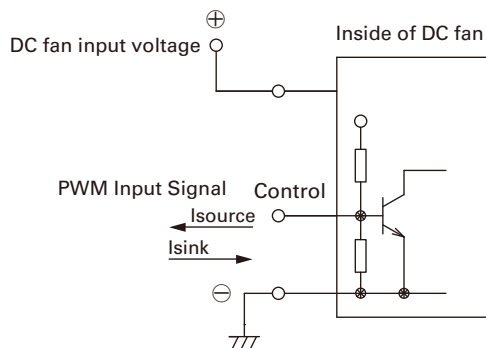
Sink Current : 1mA Max. at control voltage 5.25V

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

When the control lead wire is no connecting, the speed is the same speed as at 100% of PWM Duty cycle.

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

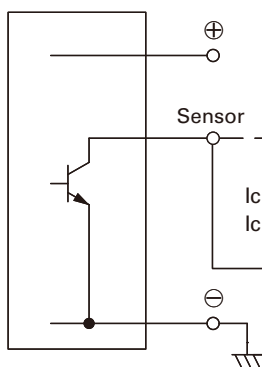
**Connection Schematic**



**Specifications for Pulse Sensors**

Output circuit : Open collector

Inside of DC fan



**Rated Voltage 12V fan**

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

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

**Rated Voltage 24V fan**

$V_{CE}=+30V$  MAX.

$I_c=10mA$  MAX. [VOL= $V_{CE(SAT)}$  =0.6V MAX.]

+13.8V MAX. (Rated Voltage 12V fan)

+30V MAX. (Rated Voltage 24V fan)

$I_c=5mA$  MAX. (Rated Voltage 12V fan)

$I_c=10mA$  MAX. (Rated Voltage 24V fan)

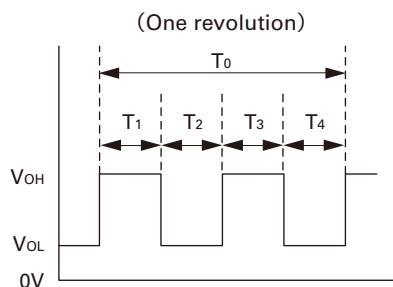
Output waveform (Need pull-up resistor)

In case of steady running

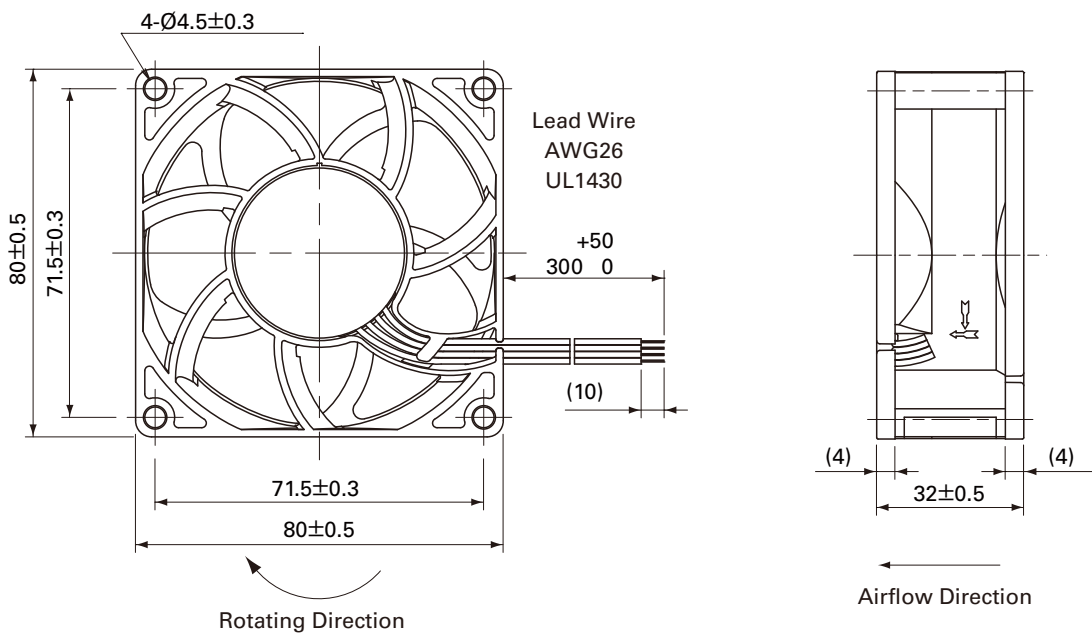
$T_{1\sim 4} \doteq (1/4) T_0$

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

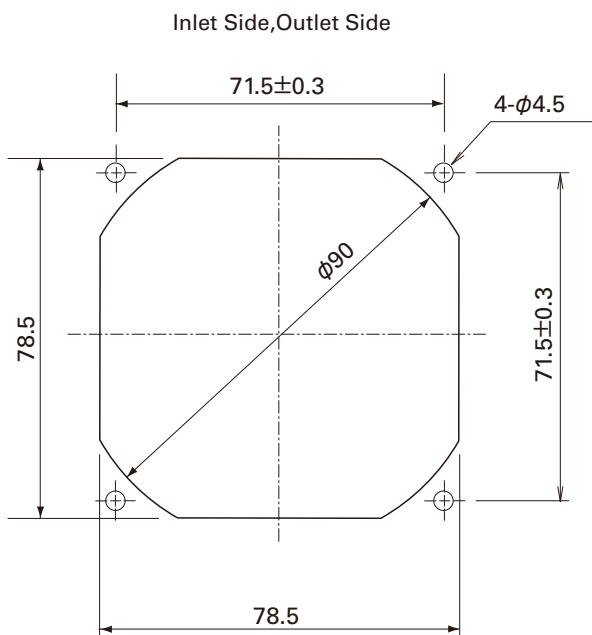
$N$ =Fan speed ( $min^{-1}$ )



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



**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.