

# San Ace 80 GA type

## Low power consumption fan

Low power consumption fan 80mm

### Features

#### Energy-saving

Power consumption is reduced by approx. 20 % compared with our conventional fan\*.

#### Low noise

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

\* Our conventional product is the DC cooling fan  
80 × 80 × 38 mm fan "San Ace 80" (Model No: 9GV0812P1F03)  
When air flow and static pressure is almost identical.



**80×80×38mm**

### Specifications

The numbers in ( ) represent ribless models.

Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM Duty Cycle* [%]	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]
9GA0812P1S61(611)	12	10.8 to 13.2	100	0.94	11.28	9,550	2.6	91.8	480	1.93	59	-10 to +70	40,000
			0	0.1	1.2	2,900	0.74	26.1	60	0.24	27		
9GA0812P1H61(611)			100	0.6	7.2	8,250	2.25	79.4	380	1.53	55		
			0	0.08	0.96	2,500	0.64	22.6	45	0.18	24		

\*PWM Frequency : 25kHz

### Common Specifications

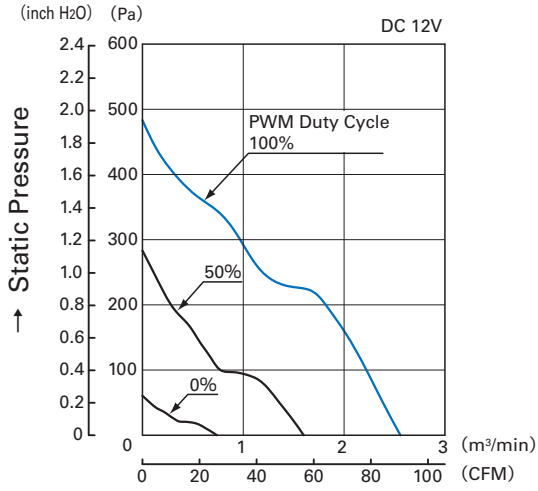
- Material ..... Frame, Impeller: Plastics (Flammability: UL94V-0)
- Life Expectancy ..... Varies for each model  
(L10: Survival rate: 90% at 60°C, rated voltage, and continuously run in a free air state)
- Motor Protection System ..... Current blocking function and Reverse polarity protection
- Dielectric 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.160g

80mm

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

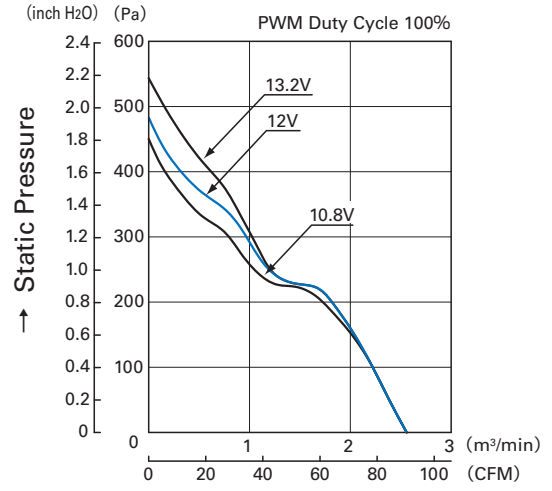
## Air Flow - Static Pressure Characteristics

### PWM Duty Cycle

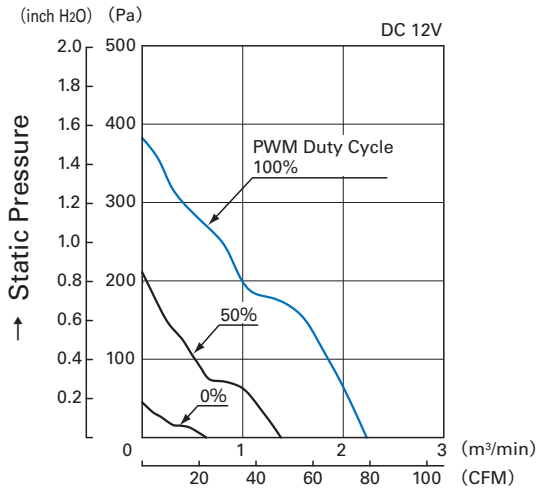


→ Air Flow  
**9GA0812P1S61(611)**

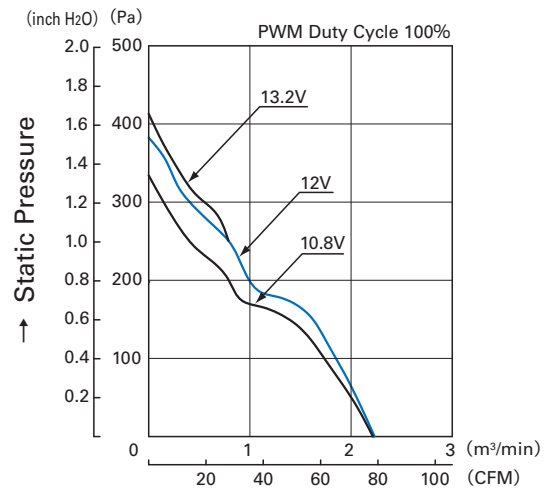
### Operating Voltage Range



→ Air Flow  
**9GA0812P1S61(611)**

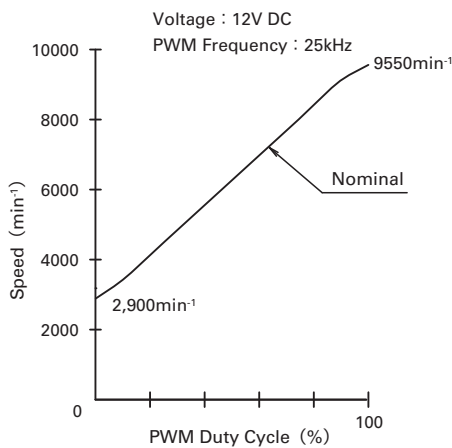


→ Air Flow  
**9GA0812P1H61(611)**

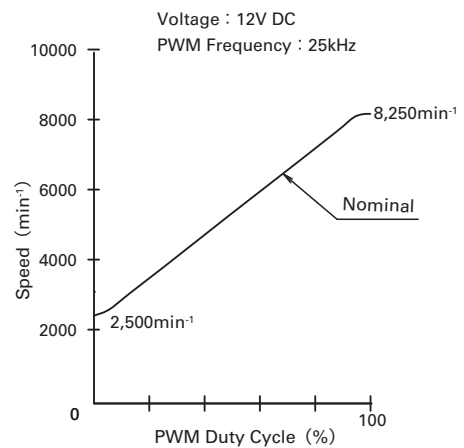


→ Air Flow  
**9GA0812P1H61(611)**

## PWM Duty - Speed Characteristics Example



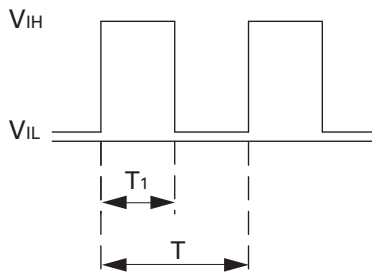
**9GA0812P1S61(611)**



**9GA0812P1H61(611)**

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

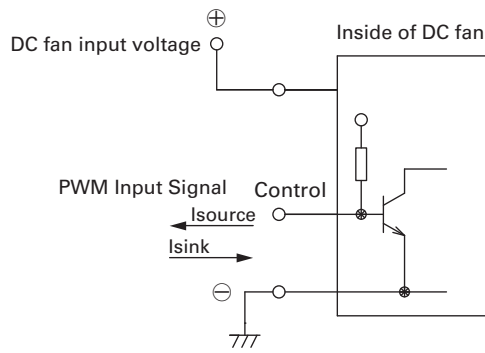
Sink Current ( $I_{sink}$ ) : 1mA Max. at control voltage 5.25V

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

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

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

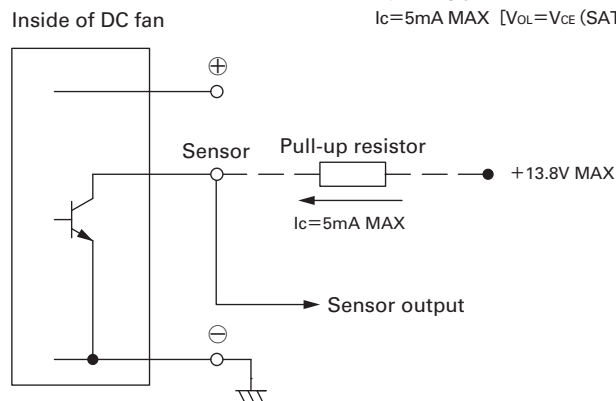
**Connection Schematic**



**Specifications for Pulse Sensors**

Output circuit : Open collector

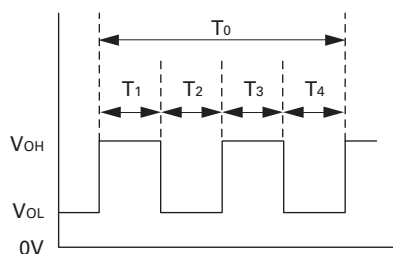
$V_{CE} = +13.8V$  MAX  
 $I_c = 5mA$  MAX [ $V_{OL} = V_{CE(SAT)} = 0.6V$  MAX]



Output waveform (Need pull-up resistor)

In case of steady running

(One revolution)

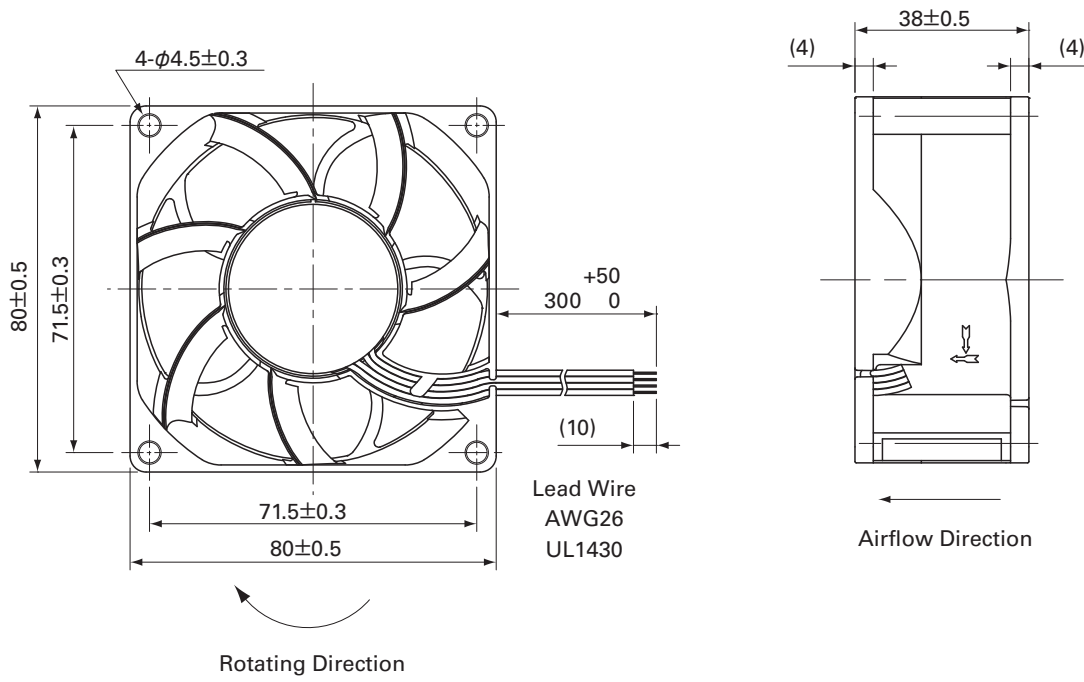


$T_{1\sim 4} \doteq (1/4) T_0$

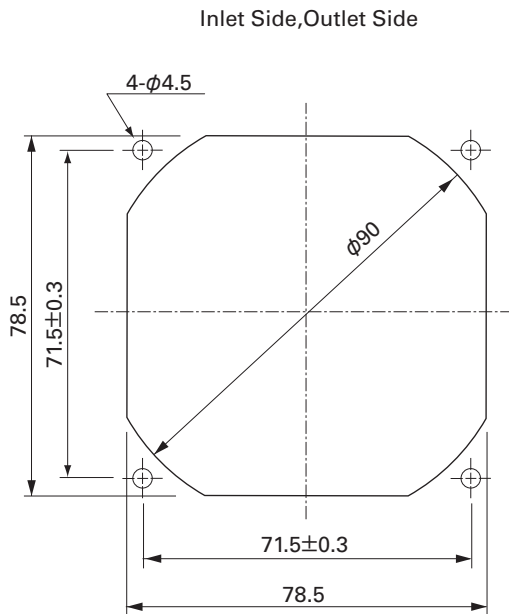
$T_{1\sim 4} \doteq (1/4) T_0 = 60/4N$  (sec)

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

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



**Reference dimension of mounting holes and vent opening (unit : mm)**



**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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