

San Ace 40 GA type

High air flow and low power consumption fan

Features

High air flow and high static pressure

Maximum air flow : increased by approx. 20%
 Maximum static pressure : increased by approx. 107 %
 compared with our conventional product*1,2.

Energy-saving

Power consumption is reduced by approx. 50 %
 compared with our conventional product*1,3.

Low noise

Sound pressure level is reduced by approx. 4dB(A)
 compared with our conventional product*1,3.

*1 Our conventional product is the 40sq.x 20 mm thick.
 San Ace 40, Model No.109P0412G601.

*2 Specification of Model No. 9GA0412P6G001.

*3 Specification of Model No. 9GA0412P6H001.
 When air flow and static pressure is almost identical.



High air flow and low power consumption fan 40mm



40×40×20mm

Specifications

Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM Duty Cycle [%] <small>Note1)</small>	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Air Flow [m ³ /min] [CFM]		Max. Static Pressure [Pa] [inchH ₂ O]		SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9GA0405P6H001 <small>Note2)</small>	5	4.5 to 5.5	100	0.35	1.75	12,400	0.33	11.7	191	0.77	40	-10 to +70	40,000
9GA0405P6F001 <small>Note2)</small>			100	0.18	0.9	8,000	0.21	7.4	79.5	0.32	28		
9GA0412P6G001	12	10.2 to 13.8	100	0.23	2.76	16,000	0.42	14.8	318	1.28	47		
			0	0.04	0.48	3,800	0.10	3.5	17.9	0.07	14		
100			0.14	1.68	12,400	0.33	11.7	191	0.77	40			
0			0.04	0.48	3,800	0.10	3.5	17.9	0.07	14			
9GA0412P6H001			100	0.08	0.96	8,000	0.21	7.4	79.5	0.32	28		
9GA0412P6F001			0	0.03	0.36	2,200	0.06	2.1	6.0	0.02	10		
9GA0424P6G001 <small>Note2)</small>	24	20.4 to 27.6	100	0.13	3.12	16,000	0.42	14.8	318	1.28	47		
9GA0424P6H001 <small>Note2)</small>			100	0.08	1.92	12,400	0.33	11.7	191	0.77	40		
9GA0424P6F001 <small>Note2)</small>			100	0.04	0.96	8,000	0.21	7.4	79.5	0.32	28		

Note1: PWM Frequency : 25kHz

Note2: Rated voltage 5V and 24V fans do not rotate when PWM duty cycle is 0%.

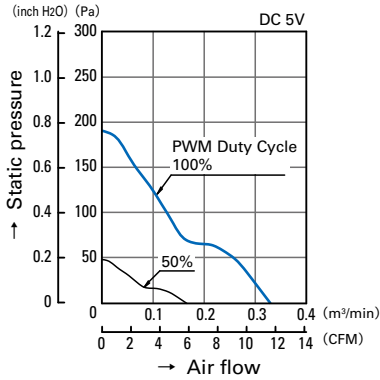
Common Specifications

- 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. 35g

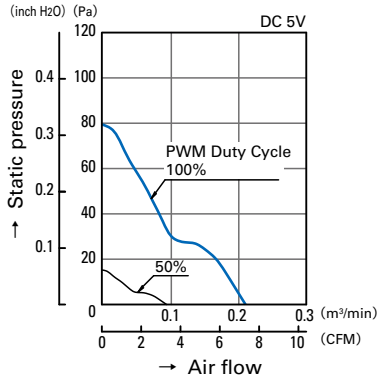
40mm

Air Flow - Static pressure Characteristics

PWM Duty Cycle

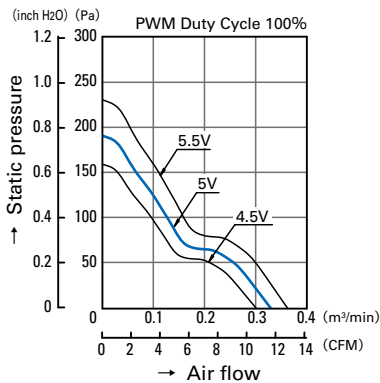


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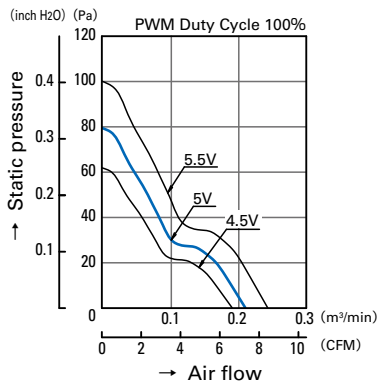


9GA0405P6F001

Operating Voltage Range

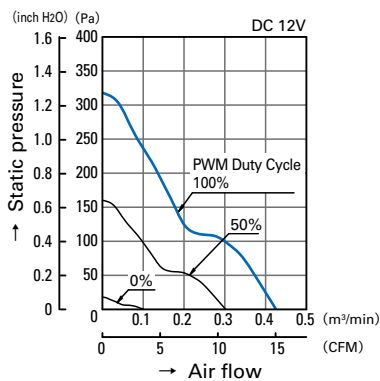


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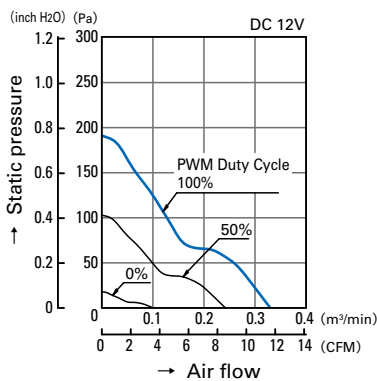


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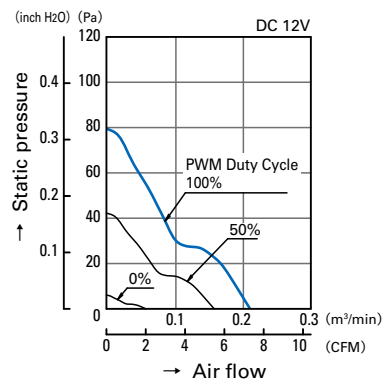
PWM Duty Cycle



9GA0412P6G001

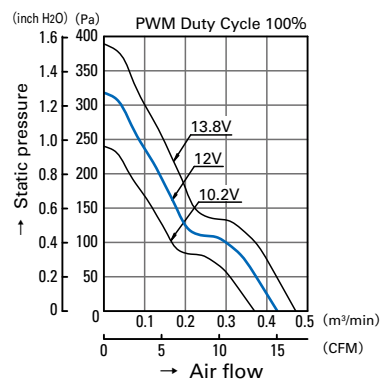


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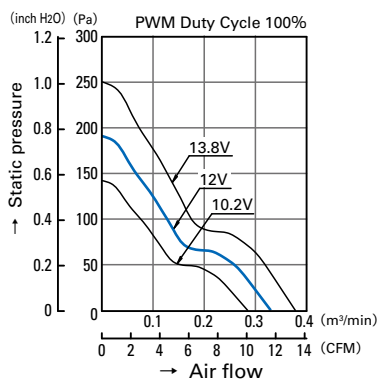


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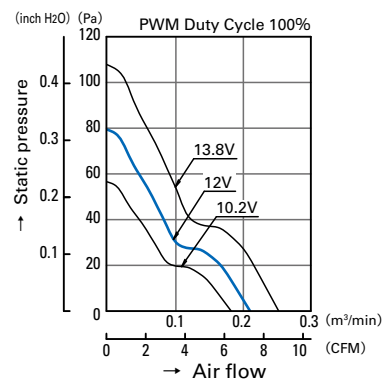
Operating Voltage Range



9GA0412P6G001



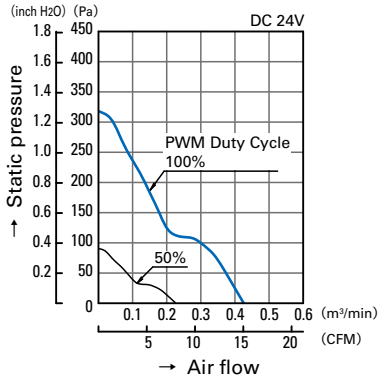
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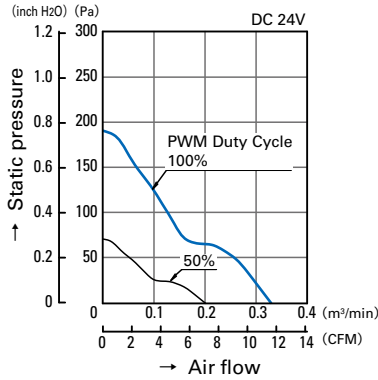
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Air Flow - Static pressure Characteristics

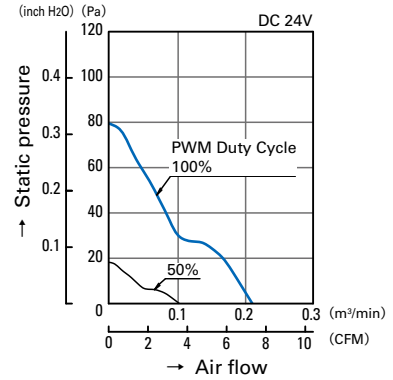
• PWM Duty Cycle



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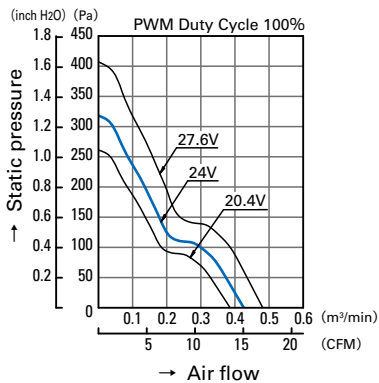


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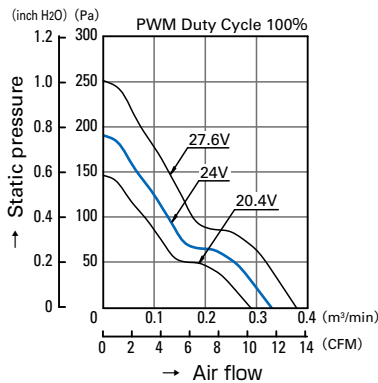


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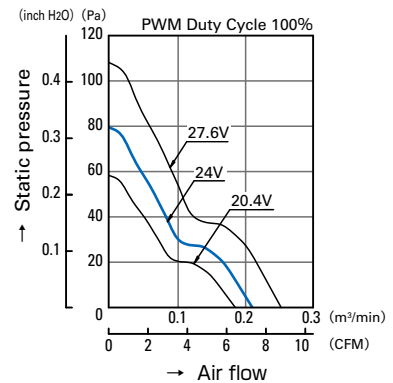
• Operating Voltage Range



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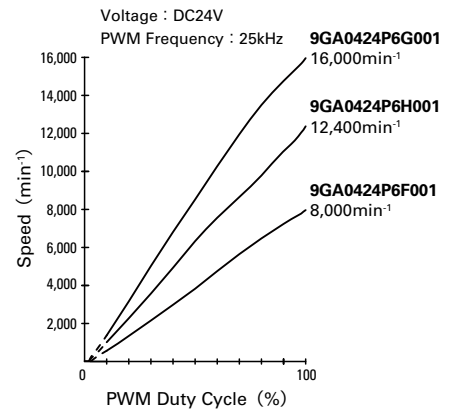
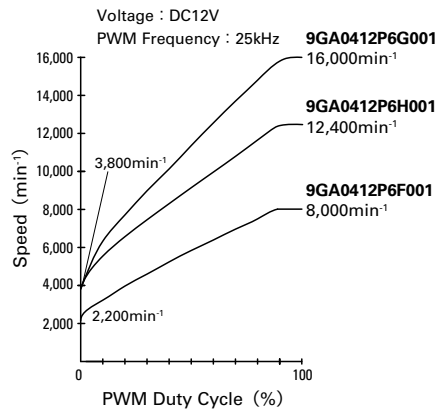
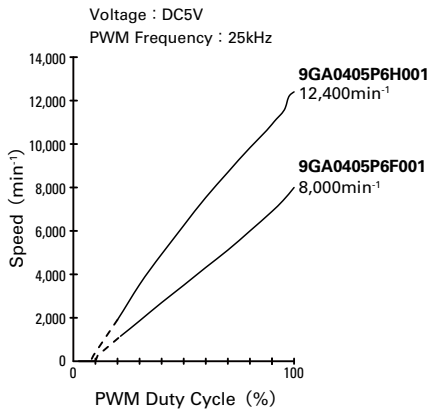


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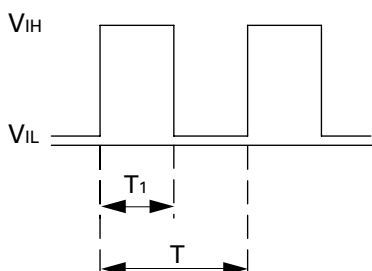
9GA0424P6F001

PWM Duty - Speed Characteristics Example



PWM Input Signal Example

Input Signal Wave Form



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

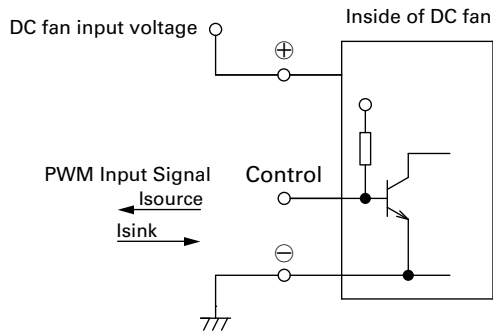
Sink Current : 1mA Max. at control voltage 5.25V

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

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

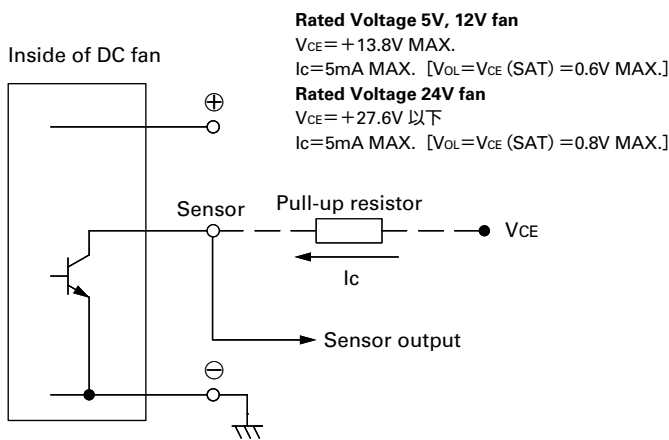
This fan speed should be controlled by PWM input signal of either TTL input or open collector, drain input.

Connection Schematic

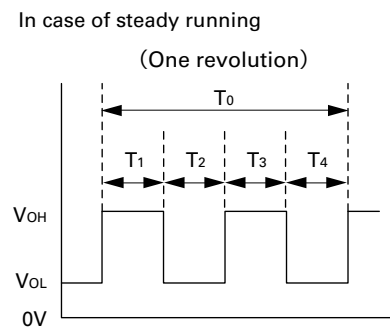


Specifications for Pulse Sensors

Output circuit : Open collector



Output waveform (Need pull-up resistor)

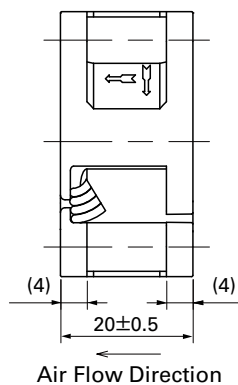
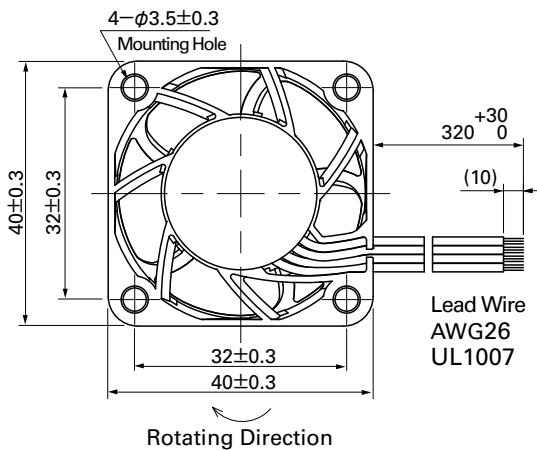


$$T_1 \sim T_4 \doteq (1/4) T_0$$

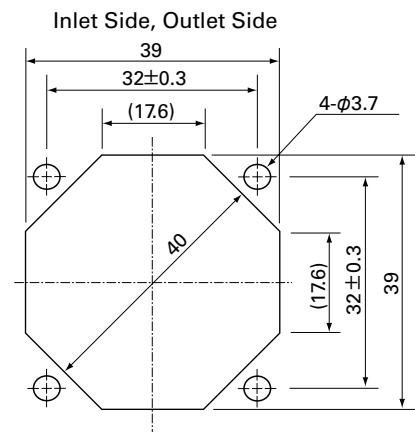
$$T_1 \sim T_4 \doteq (1/4) T_0 = 60/4N \text{ (sec)}$$

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

Dimensions (unit : mm)



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.