

# San Ace 60 GV type

DC Fan 60mm

## ■ Features

### Large air flow and high static pressure

- Maximum airflow : increased by approx. 17%
- Maximum static pressure : increased by approx. 42% compared with our conventional product\*.

### Energy-Saving Design

- Power consumption : reduced by approx. 18% with airflow performance that is identical to our conventional product\*.

\* Our conventional product is the DC cooling fan :  
60 mm square x 38 mm thick fan "San Ace 60" G type (9G0612G102)



**60mm square** × **38mm thick**

## ■ Specifications

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 Range (°C)	Life Expectancy (h)
							2.15	76	617	2.48			
9GV0612P1H03 (031)	12	8.0 to 13.2	100	2.0	24.0	14,500	2.15	76	617	2.48	63	-10 to +70	40,000
			0	0.1	1.2	2,700	0.40	14	21	0.09	22		

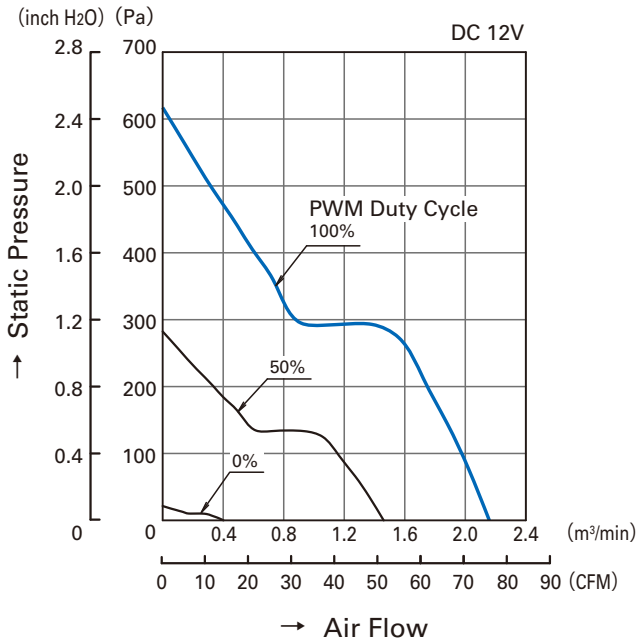
The numbers in ( ) represent ribless models.

※PWM Frequency:25kHz

60mm

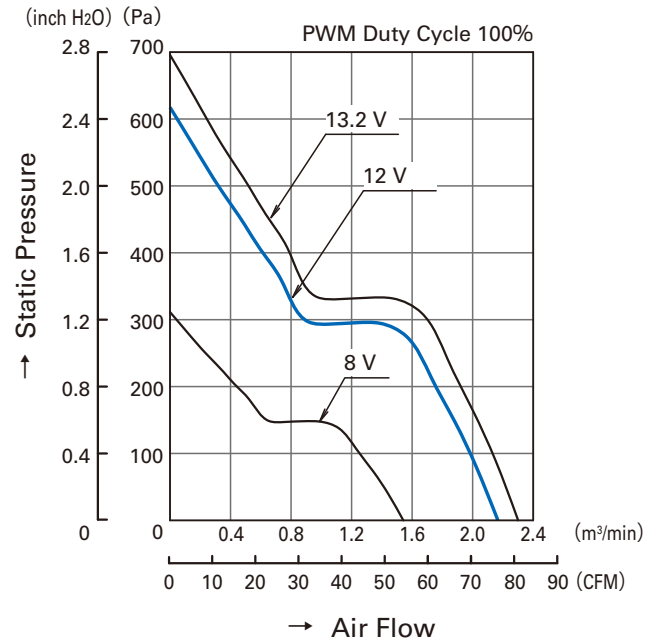
## Air Flow and Static Pressure Characteristics

### PWM Duty Cycle



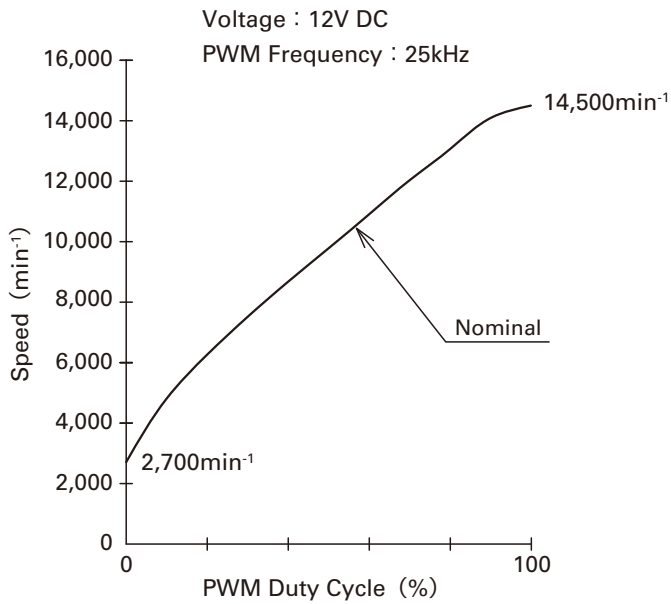
9GV0612P1H03 (031)

### Operating Voltage Range



9GV0612P1H03 (031)

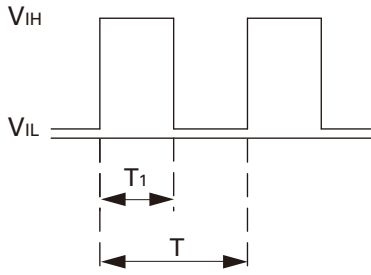
## PWM Duty - Speed Characteristics Example



9GV0612P1H03 (031)

**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) =  $\frac{1}{T}$

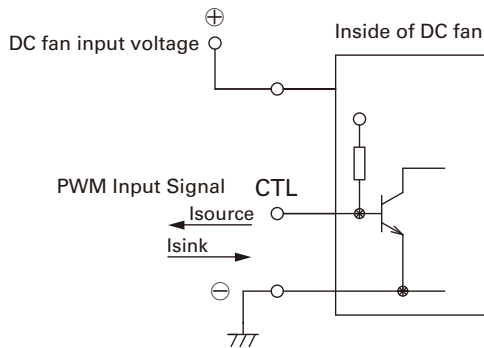
Source Current : 1mA Max. at control voltage 0V

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

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

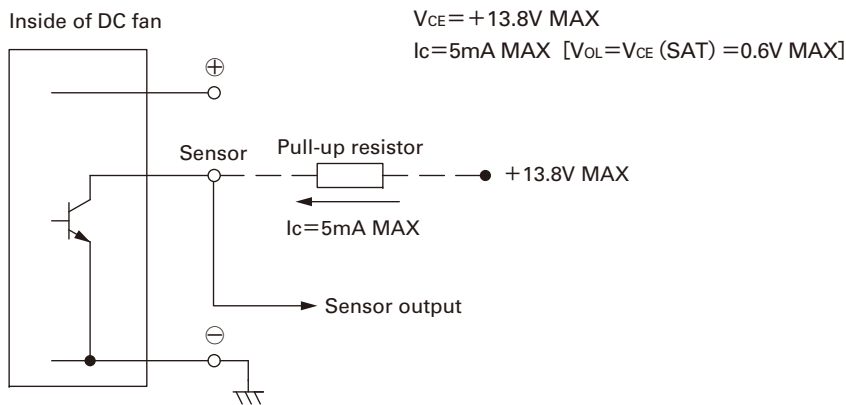
This fan speed should be controlled by PWM input signal of either TTL input or open collector, drain input.

**Connection Schematic**



**Specifications for Pulse Sensors**

Output circuit : Open collector

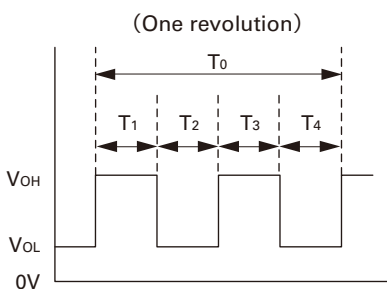


$V_{CE}=+13.8V$  MAX

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

Output waveform (Need pull-up resistor)

In case of steady running

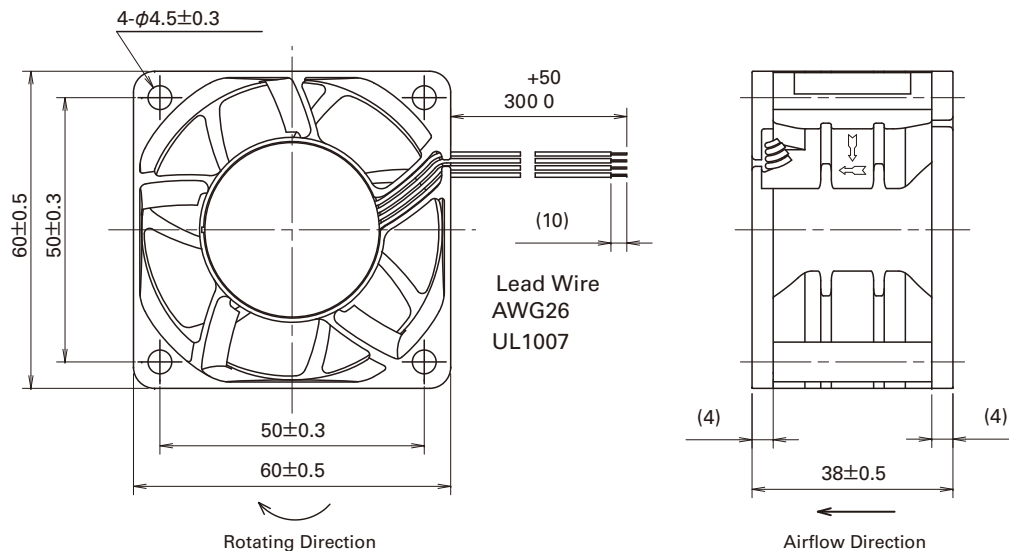


$T_{1\sim 4} \doteq (1/4) T_0$

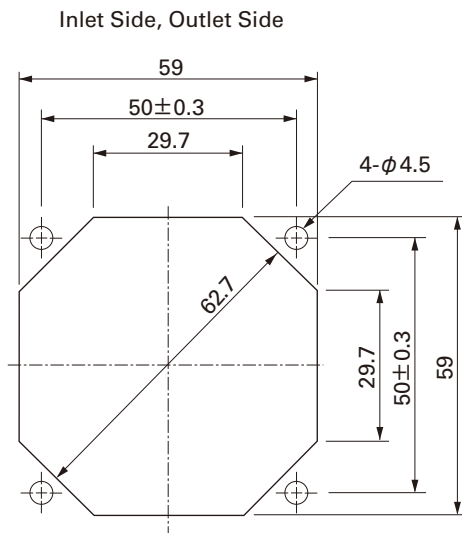
$T_{1\sim 4} \doteq (1/4) T_0 = 60/4N$  (sec)

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

## ■ Dimensions (unit : mm)



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



## ■ Common Specifications

- Material ..... Frame: Plastics (Flammability: UL94V-0) , Impeller: Plastics (Flammability: UL94V-1)
- 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)
- Lead Wire ..... ⊕red ⊖black Sensor: yellow Control: brown
- Mass ..... 130g

### 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.