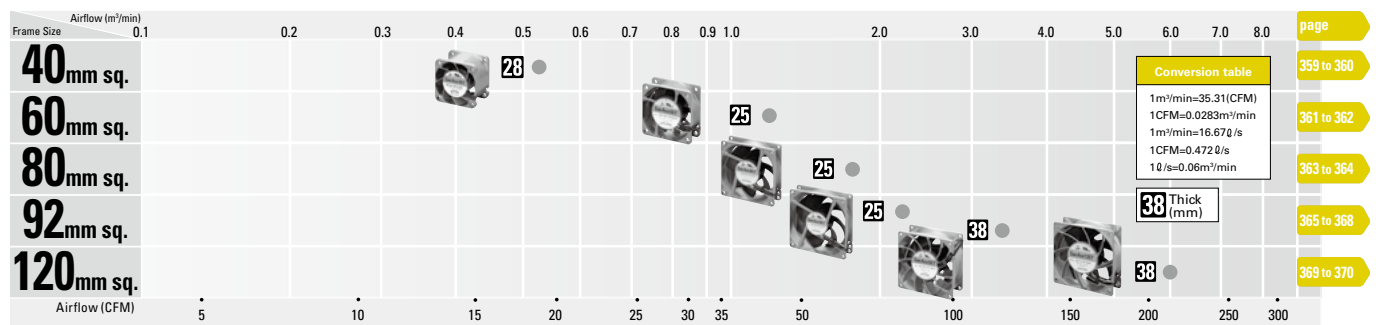


Wide Temperature Range Fan

These fans can be used in a wide temperature range from -40°C to $+85^{\circ}\text{C}$.

Domain Diagram



Model Numbering System

Not every combination of the following codes or characters is available. Contact us for an available combination.

9GT	04	12	P	3	J	001
Type name / frame material 9GT / Plastics	Frame size 04 : 40×40mm 06 : 60×60mm 08 : 80×80mm 09 : 92×92mm 12 : 120×120mm	Voltage 12 : 12V 24 : 24V	PWM control function	Frame thickness 1 : 38mm thick 3 : 28mm thick 4 : 25mm thick	Speed code	Individual customer's spec

How to Read Specifications

DC Fan											DC	
Model No.	① Rated Voltage [V]	② Operating Voltage Range [V]	③ Rated Current [A]	④ Rated Input [W]	⑤ Rated Speed [min ⁻¹]	⑥ Max. Airflow [m ³ /min] [CFM]		⑦ Max. Static Pressure [Pa] [inchH ₂ O]		⑧ SPL [dB(A)]	⑨ Operating Temperature [°C]	⑩ Expected Life [h]
9GA0412G7001	12	7 to 13.8	0.17	2.04	13,100	0.36	12.7	192	0.77	42	-20 to +70	40,000/60°C (70,000/40°C)

- ① Rated Voltage This is the necessary voltage to drive the fan. 12VDC, 24VDC and 48VDC are available.
- ② Operating Voltage Range... The voltage range over which fan operation is guaranteed
- ③ Rated Current The current value during the fan's rated operation without load
- ④ Rated Input The input value during the fan's rated operation without load
- ⑤ Rated Speed The rotating speed during the fan's rated operation without load
- ⑥ Max. Airflow The maximum air volume that the fan can output during rated operation (according to the company's dual-chamber device).
The volume of air generated by the fan in a given time period
- ⑦ Max. Static Pressure The maximum static pressure value that the fan can output during rated operation (according to the company's dual-chamber device). The static pressure is the fan's force to propel air by overcoming the resistance of the device that uses the fan when it propels air.
- ⑧ SPL..... "SPL" is Sound Pressure Level. The noise level during the fan's rated operation.
Please refer to the technical material section for the method used to measure the noise level.
- ⑨ Operating Temperature The temperature range over which fan operation is guaranteed (Non- condensing)
- ⑩ Expected Life The fan's expected operating life when the fan operates continuously at the rated voltage at a temperature of 60°C and at relative humidity of 90%. Expected life at 40°C ambient is just reference value.
Please refer to the technical material section for the expected operating life.

DC Fan Common Specifications

Material Frame,Impeller:Plastics / Frame:Aluminum,Impeller:Plastics

* For details, refer to the appropriate page.

Expected LifeVaries for each model (L10:Survival rate:90% at 60°C ,rated voltage, and continuously run in a free air state)

* Splash proof fan: Varies for each model (Indoor, L10:Survival rate:90% at 60°C ,rated voltage, and continuously run in a free air state)

Motor ProtectionBurnout protection at locked rotor condition and Reverse polarity protection

Dielectric StrengthAC50/60Hz 500VAC 1minute(between lead conductor and frame)

Insulation Resistance10M Ω or more at 500VDC megger (between lead conductor and frame)

Sound Pressure Level(SPL) ..Expressed as the value at 1m from air inlet side

Lead WireFor details, refer to the appropriate page.

Overheating protection function

Protection Functions:

If the fan blades are restricted, an overcurrent occurs and leads to a rise in the fan coil temperature. This can result in reduced performance, damage, or a fire. To prevent this from occurring, SANYO DENKI's fans incorporate an overheating protection function. Refer to the catalog for the types of protection functions.

Burnout protection function at locked rotor condition

- Current cutoff system

If the fan blades are restricted, the coil current is cut off at regular cycles to prevent overheating of the coil. When the hindrance is removed, the fan restarts automatically.

Reverse polarity protection function

No problem about fan even if positive & negative lead are connected in reverse.

However, when wiring fans with sensors or PWM speed control function, connecting positive and negative leads in reverse may damage the fans.

40mm sq.

San Ace 40T



General Specifications

- Material Frame: Aluminum, Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10: Survival rate: 90% at 85°C, rated voltage, and continuously run in a free air state)
- Lead Wire ⊕ red ⊖ black (Sensor) yellow (Control) brown
- Storage Temperature -40°C to +85°C (Non-condensing)

40×40×28mm (Mass : 55g) **9GT type**

Specifications

The following nos. have PWM controls and pulse sensors.

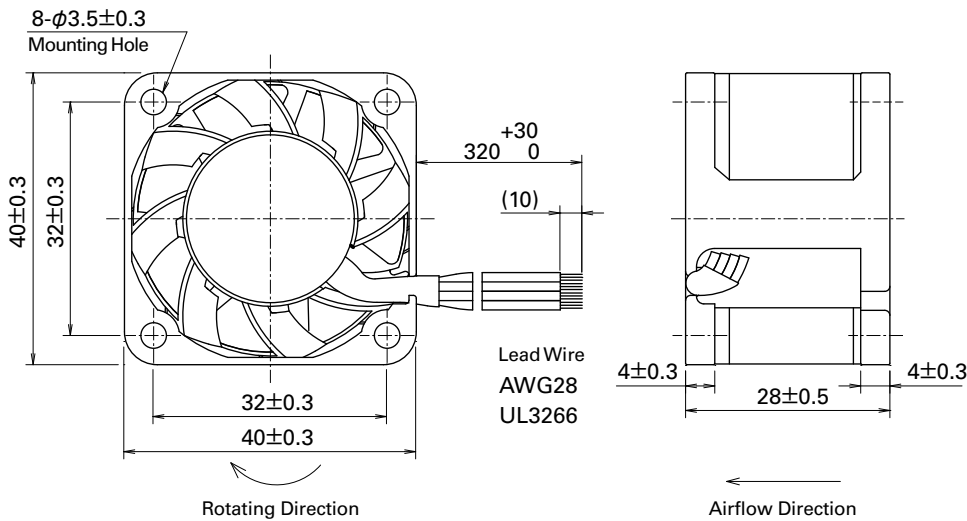
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle ^{Note1)} [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9GT0412P3J001	12	10.2 to 13.8	100	0.31	3.72	11,700	0.52 18.4	206 0.827	48	-40 to +85	40,000/85°C
			30	0.08	0.96	4,100	0.18 6.36	25.2 0.100	21		
9GT0424P3J001	24	20.4 to 27.6	100	0.15	3.60	11,700	0.52 18.4	206 0.827	48	-40 to +85	40,000/85°C
			30	0.05	1.20	4,100	0.18 6.36	25.2 0.100	21		

Note : Fan does not rotate when PWM duty cycle is 0%.

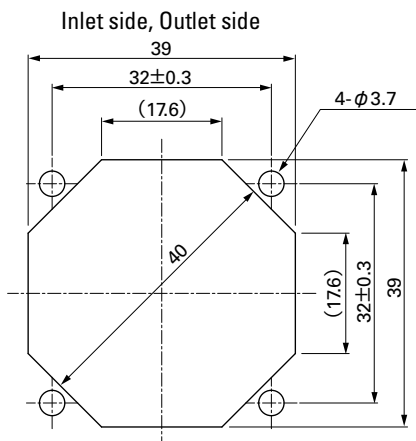
※PWM Frequency : 25kHz

Other sensor specifications are available as options. Please refer to the index (p. 506).

Dimensions (unit: mm)



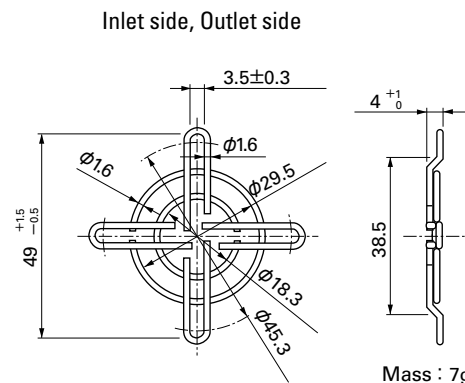
Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Options (unit: mm)

Finger Guards

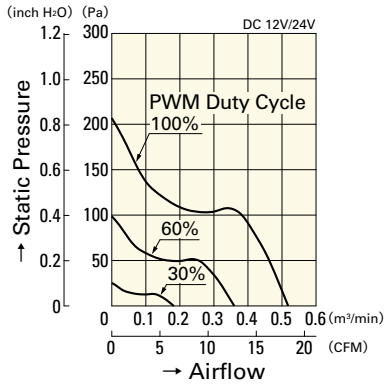
Model : 109-059 Surface treatment : Nickel-chrome plating (silver)
: 109-059H : Cation electropainting (black)



Mass : 7g

Airflow - Static Pressure Characteristics

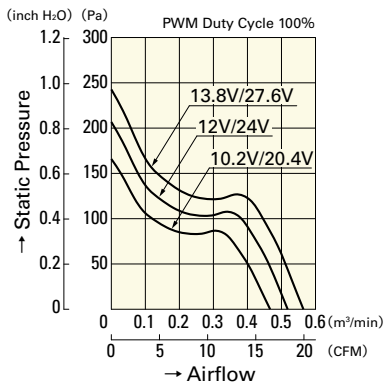
PWM Duty Cycle



9GT0412P3J001

9GT0424P3J001

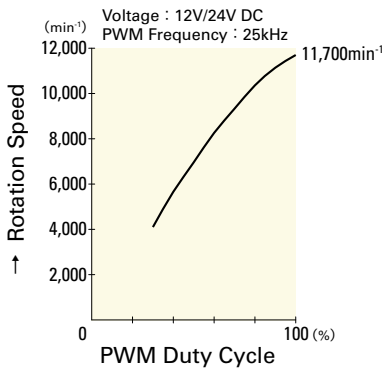
Operating Voltage Range



9GT0412P3J001

9GT0424P3J001

PWM Duty - Speed Characteristics Example



9GT0412P3J001

9GT0424P3J001

DC

Wide Temperature Range Fan 40mm

60mm sq.

San Ace 60T



General Specifications

- Material Frame: Aluminum, Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate:90% at 85°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow (Control) brown
- Storage Temperature -40°C to +85°C (Non-condensing)

60×60×25mm (Mass : 100g) **9GT** type

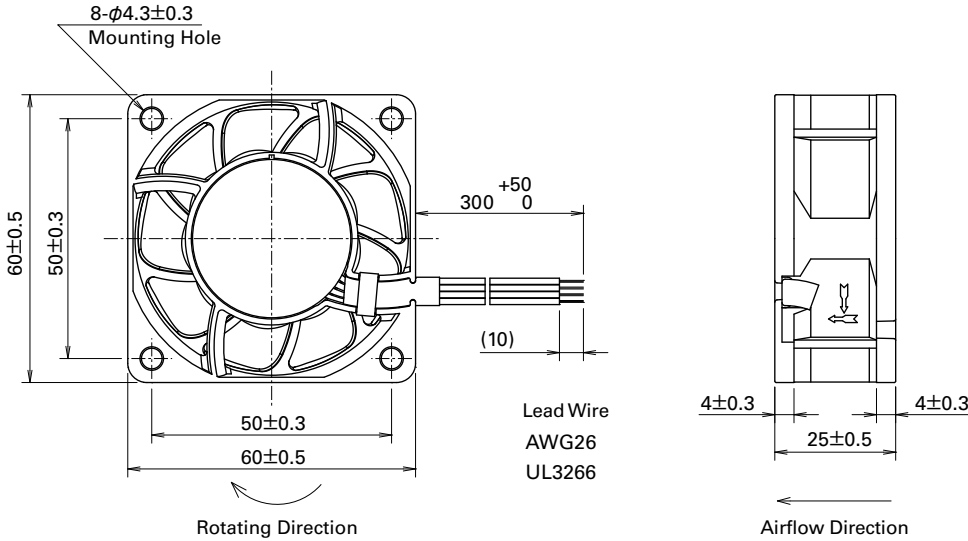
Specifications

The following nos. **have PWM controls and pulse sensors.**

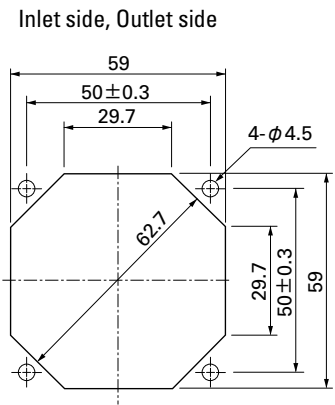
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle ^{Note1)} [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [InchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9GT0612P4G001	12	10.2 to 13.8	100	0.56	6.72	10,000	1.26 44.5	243 0.97	52	-40 to +85	40,000/85°C
			30	0.11	1.32	4,100	0.52 18.3	42.8 0.17	25		
9GT0624P4G001	24	20.4 to 27.6	100	0.28	6.72	10,000	1.26 44.5	243 0.97	52		
			30	0.06	1.44	4,100	0.52 18.3	42.8 0.17	25		

Note : Fan does not rotate when PWM duty cycle is 0%. ※PWM Frequency : 25kHz
 Other sensor specifications are available as options. Please refer to the index (p. 506).

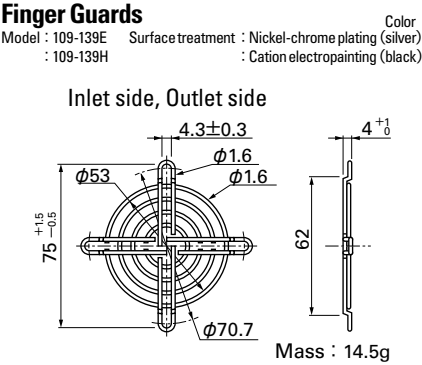
Dimensions (unit: mm)



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

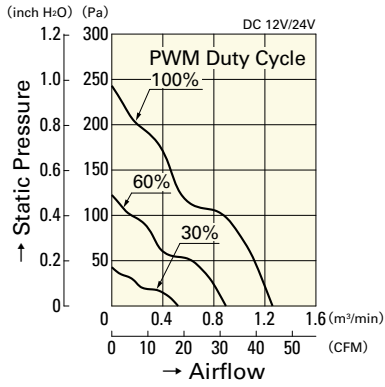


Options (unit: mm)



Airflow - Static Pressure Characteristics

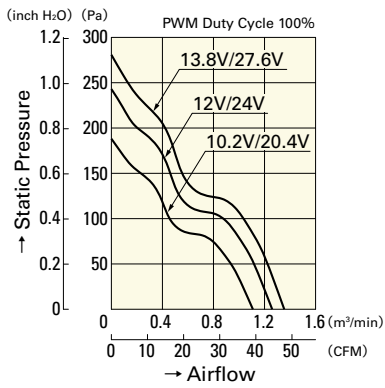
PWM Duty Cycle



9GT0612P4G001

9GT0624P4G001

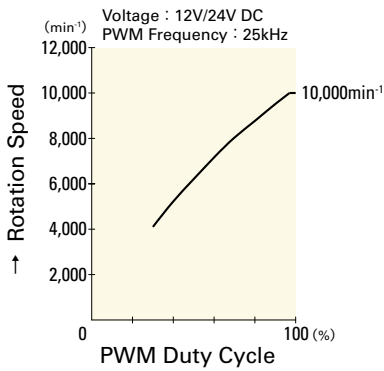
Operating Voltage Range



9GT0612P4G001

9GT0624P4G001

PWM Duty - Speed Characteristics Example



9GT0612P4G001

9GT0624P4G001

DC

Wide Temperature Range Fan 60mm

80 mm sq.

San Ace 80T



General Specifications

- Material Frame: Aluminum, Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate:90% at 85°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow (Control) brown
- Storage Temperature -40°C to +85°C (Non-condensing)

80×80×25 mm (Mass : 130g) **9GT** type

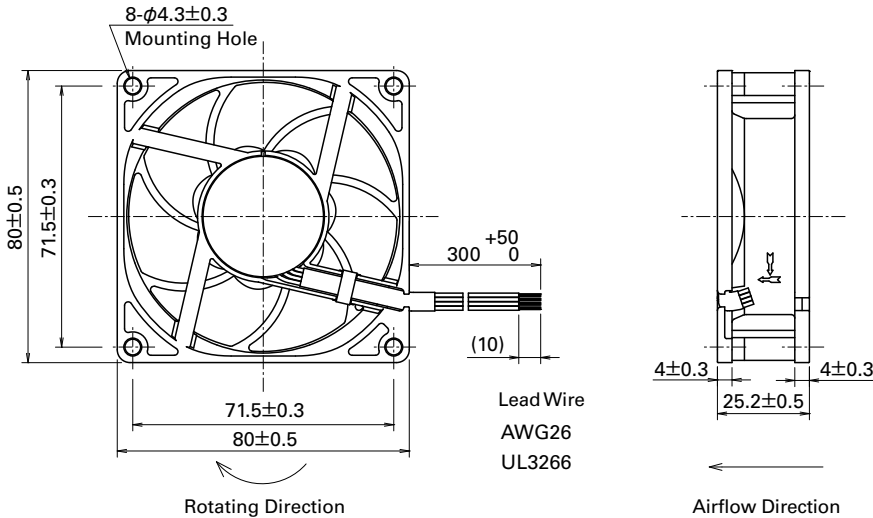
Specifications

The following nos. **have PWM controls and pulse sensors.**

Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle [※] [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9GT0812P4S001	12	10.2 to 13.8	100	0.46	5.52	6,700	1.86 65.7	143 0.57	46	-40 to +85	40,000/85°C
			30	0.09	1.08	2,650	0.73 25.7	22.3 0.08	26		
9GT0824P4S001	24	20.4 to 27.6	100	0.22	5.28	6,700	1.86 65.7	143 0.57	46		
			30	0.05	1.20	2,650	0.73 25.7	22.3 0.08	26		

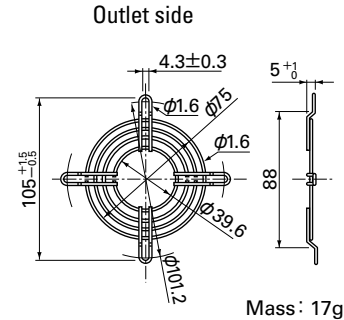
Note : Fan does not rotate when PWM duty cycle is 0%. ※PWM Frequency : 25kHz
 Other sensor specifications are available as options. Please refer to the index (pp. 506 to 507).

Dimensions (unit: mm)

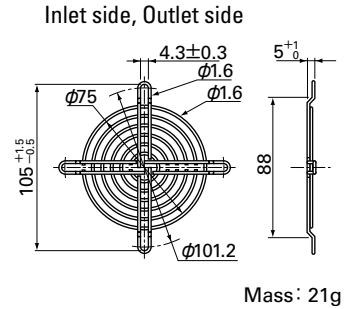


Options (unit: mm)

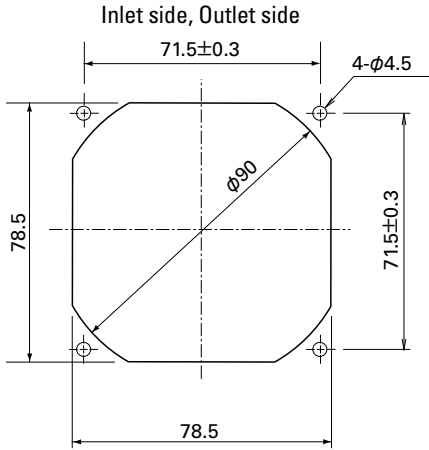
Finger Guards Color
 Model : 109-049C Surface treatment : Nickel-chrome plating (silver)



Model : 109-049E Surface treatment : Nickel-chrome plating (silver)
 : 109-049H : Cation electropainting (black)

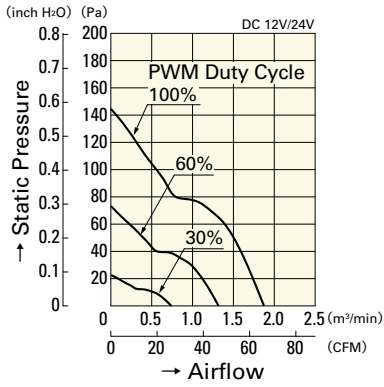


Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Airflow - Static Pressure Characteristics

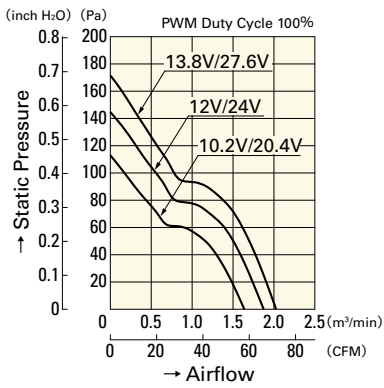
PWM Duty Cycle



9GT0812P4S001

9GT0824P4S001

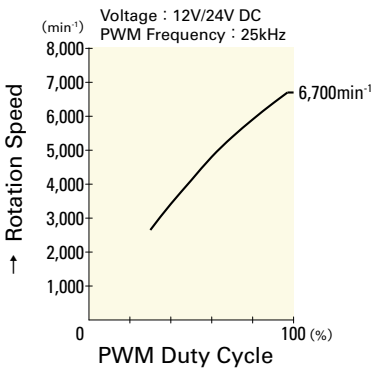
Operating Voltage Range



9GT0812P4S001

9GT0824P4S001

PWM Duty - Speed Characteristics Example



9GT0812P4S001

9GT0824P4S001

DC

Wide Temperature Range Fan 80mm

92mm sq.

San Ace 92T



General Specifications

- Material Frame: Aluminum, Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate:90% at 85°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow (Control) brown
- Storage Temperature -40°C to +85°C (Non-condensing)

92×92×25mm (Mass : 150g) **9GT** type

Specifications

The following nos. **have PWM controls and pulse sensors.**

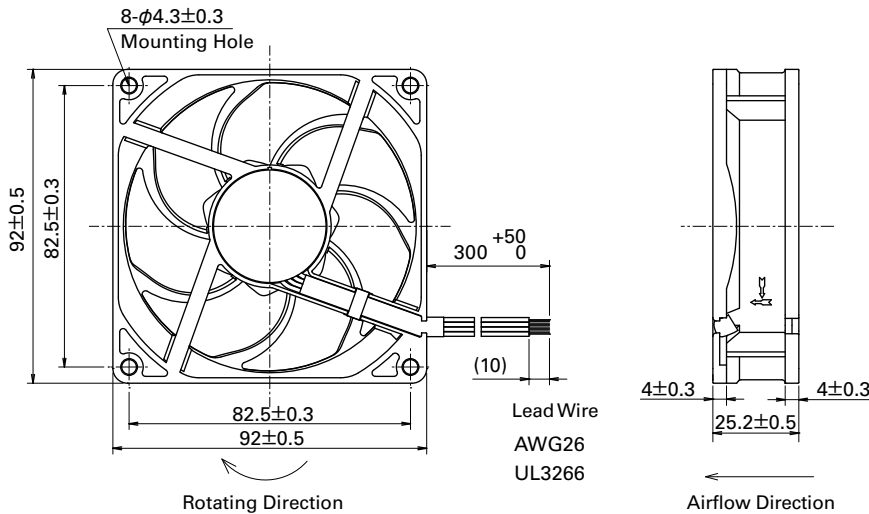
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle ^{※1} [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [InchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9GT0912P4J001	12	10.2 to 13.8	100	0.42	5.04	5,000	2.20 77.7	105 0.42	44	-40 to +85	40,000/85°C
			30	0.07	0.84	1,850	0.81 28.7	14.3 0.05	18		
9GT0924P4J001	24	20.4 to 27.6	100	0.21	5.04	5,000	2.20 77.7	105 0.42	44		
			30	0.05	1.20	1,850	0.81 28.7	14.3 0.05	18		

Note : Fan does not rotate when PWM duty cycle is 0%.

※PWM Frequency : 25kHz

Other sensor specifications are available as options. Please refer to the index (p. 507).

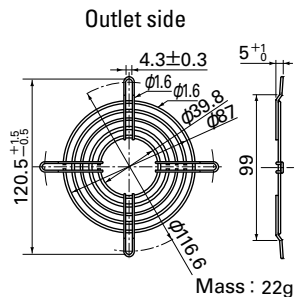
Dimensions (unit: mm)



Options (unit: mm)

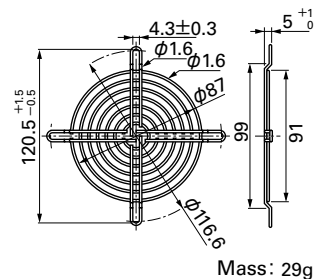
Finger Guards

Model : 109-099C Surface treatment : Nickel-chrome plating (silver) Color

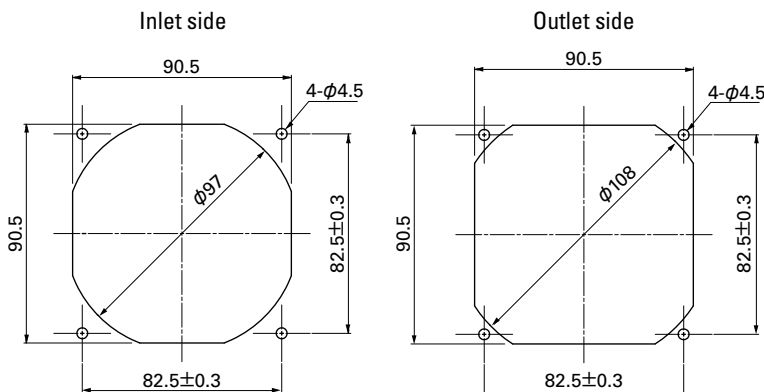


Model : 109-099E Surface treatment : Nickel-chrome plating (silver) Color
: 109-099H : Cation electropainting (black)

Inlet side, Outlet side

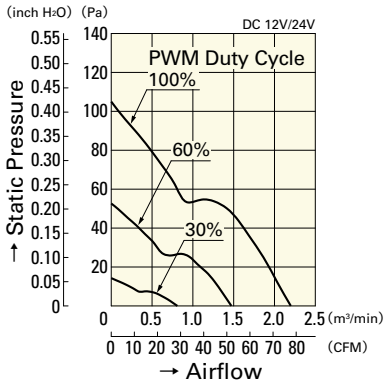


Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Airflow - Static Pressure Characteristics

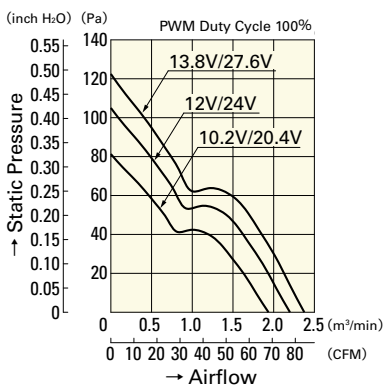
PWM Duty Cycle



9GT0912P4J001

9GT0924P4J001

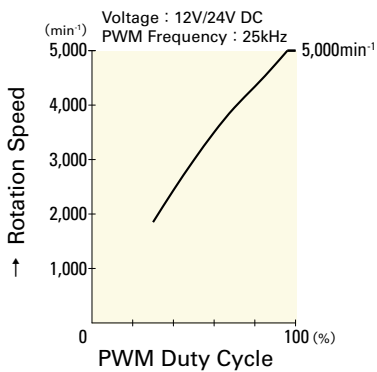
Operating Voltage Range



9GT0912P4J001

9GT0924P4J001

PWM Duty - Speed Characteristics Example



9GT0912P4J001

9GT0924P4J001

DC

Wide Temperature Range Fan 92mm

92mm sq.

San Ace 92T



General Specifications

- Material Frame: Aluminum, Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate:90% at 85°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow (Control) brown
- Storage Temperature -40°C to +85°C (Non-condensing)

92×92×38mm (Mass : 270g) **9GT** type

Specifications

The following nos. **have PWM controls and pulse sensors.**

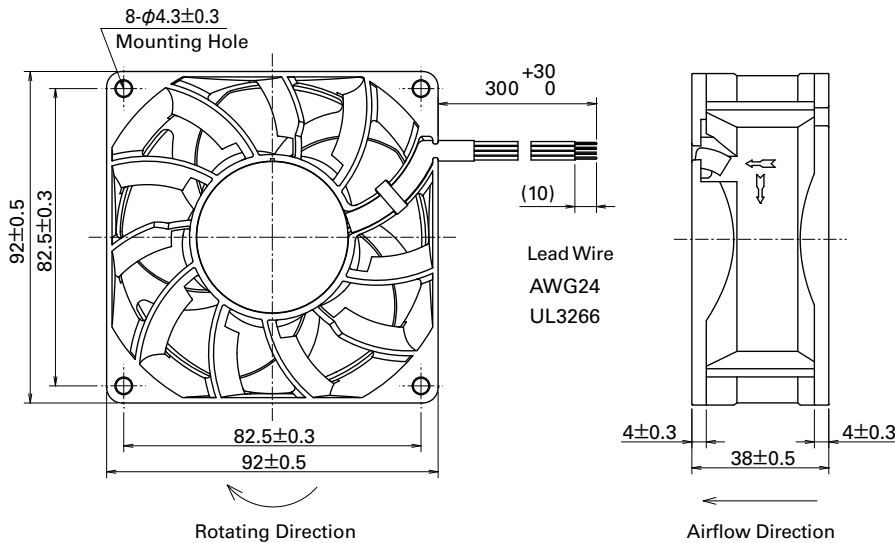
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle [※] [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [InchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9GT0912P1M001	12	10.2 to 13.8	100	1.50	18.0	8,100	3.30 116.6	315 1.26	58	-40 to +85	40,000/85°C
			30	0.30	3.6	3,750	1.50 53.0	72.0 0.29	37		
9GT0924P1M001	24	20.4 to 27.6	100	0.75	18.0	8,100	3.30 116.6	315 1.26	58		
			30	0.15	3.6	3,750	1.50 53.0	72.0 0.29	37		

Note : Fan does not rotate when PWM duty cycle is 0%.

※PWM Frequency : 25kHz

Other sensor specifications are available as options. Please refer to the index (p. 507).

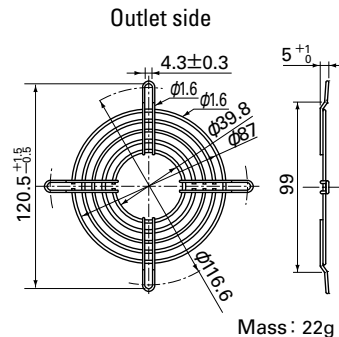
Dimensions (unit: mm)



Options (unit: mm)

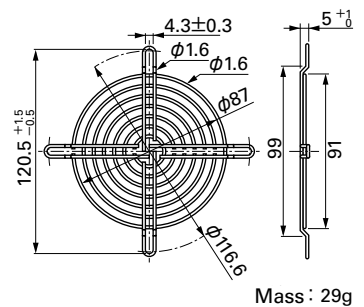
Finger Guards

Model : 109-099C Surface treatment : Nickel-chrome plating (silver) Color

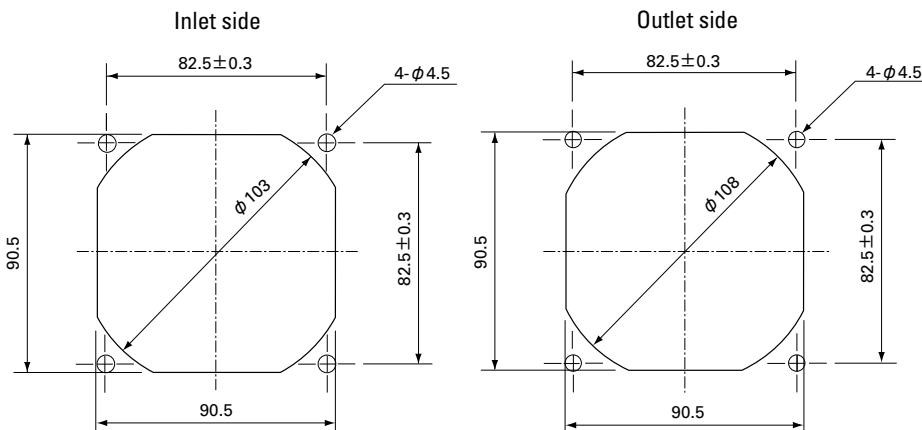


Model : 109-099E Surface treatment : Nickel-chrome plating (silver) Color
: 109-099H : Cation electropainting (black)

Inlet side, Outlet side

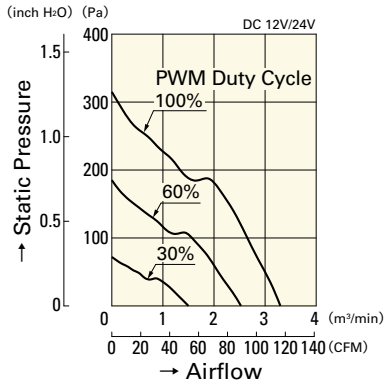


Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Airflow - Static Pressure Characteristics

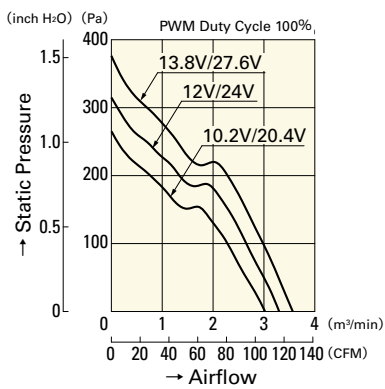
PWM Duty Cycle



9GT0912P1M001

9GT0924P1M001

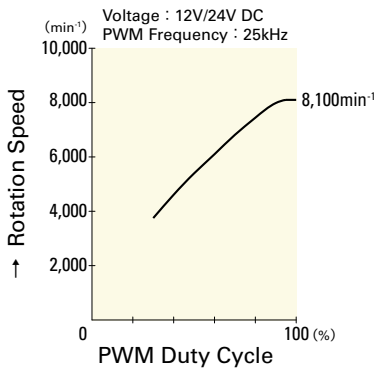
Operating Voltage Range



9GT0912P1M001

9GT0924P1M001

PWM Duty - Speed Characteristics Example



9GT0912P1M001

9GT0924P1M001

DC

Wide Temperature Range Fan 92mm

120mm sq.

San Ace 120T



General Specifications

- Material Frame: Aluminum, Impeller: Plastics (Flammability: UL94V-1)
- Expected Life Refer to specifications (L10:Survival rate:90% at 85°C ,
rated voltage, and continuously run in a free air state)
- Lead Wire ⊕red ⊖black (Sensor) yellow (Control) brown
- Storage Temperature -40°C to +85°C (Non-condensing)

120×120×38mm [Mass : 420g] **9GT type**

Specifications

The following nos. **have PWM controls and pulse sensors.**

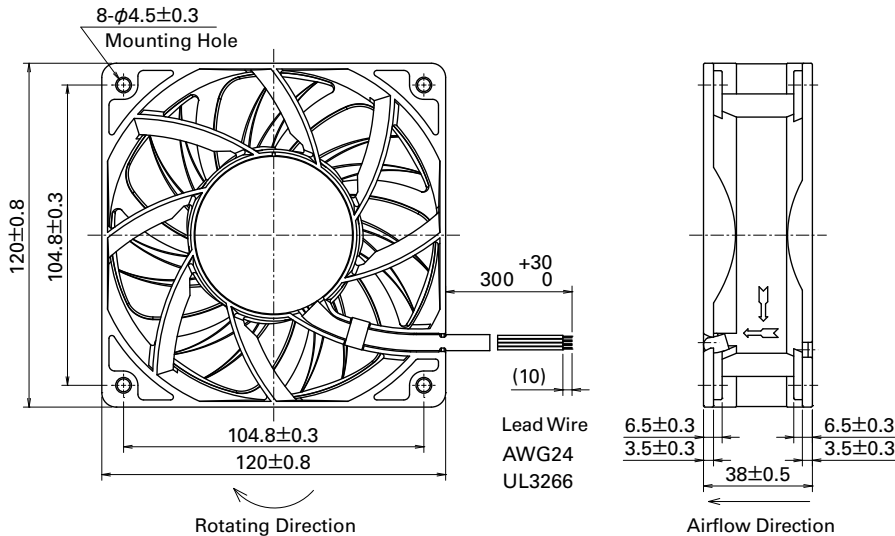
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle [※] [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Airflow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [InchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9GT1212P1S001	12	9.0 to 13.8	100	2.2	26.4	5,600	6.00 211.8	270 1.08	58	-40 to +85	40,000/85°C
			35	0.48	5.76	2,900	3.00 106.0	85.6 0.34	41		
9GT1224P1S001	24	18.0 to 27.6	100	1.1	26.4	5,600	6.00 211.8	270 1.08	58		
			35	0.24	5.76	2,900	3.00 106.0	85.6 0.34	41		

Note : Fan does not rotate when PWM duty cycle is 0%.

※PWM Frequency : 25kHz

Other sensor specifications are available as options. Please refer to the index (p. 507).

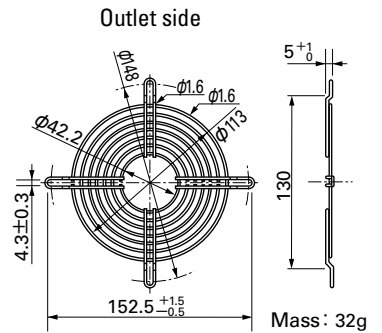
Dimensions (unit: mm)



Options (unit: mm)

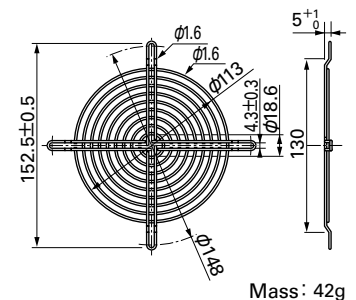
Finger Guards

Model : 109-019C Surface treatment : Nickel-chrome plating (silver)
: 109-019H : Cation electropainting (black)

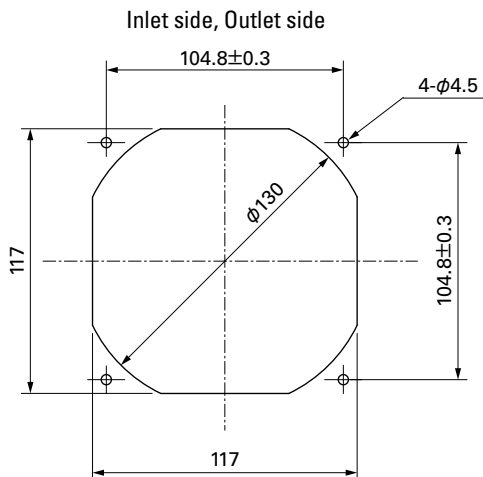


Model : 109-019E Surface treatment : Nickel-chrome plating (silver)
: 109-019K : Cation electropainting (black)

Inlet side, Outlet side

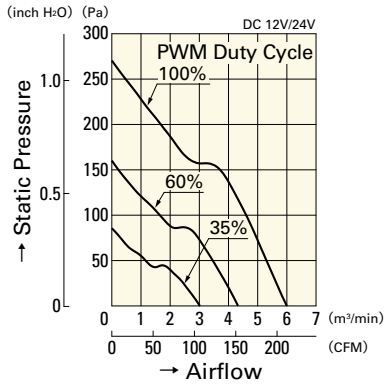


Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Airflow - Static Pressure Characteristics

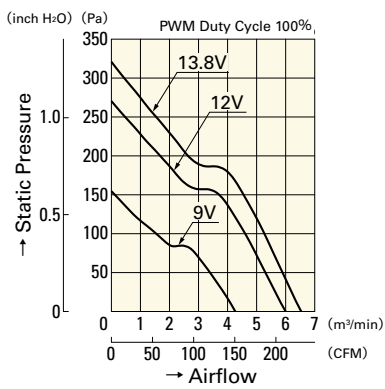
PWM Duty Cycle



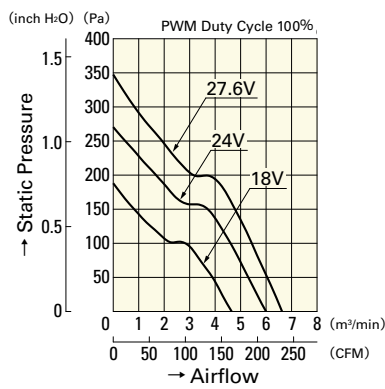
9GT1212P1S001

9GT1224P1S001

Operating Voltage Range

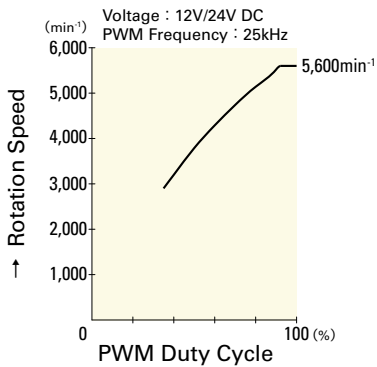


9GT1212P1S001



9GT1224P1S001

PWM Duty - Speed Characteristics Example



9GT1212P1S001

9GT1224P1S001

DC

Wide Temperature Range Fan 120mm