

## Features

- DC fans often offer variable speed settings, allowing users to adjust the fan speed according to their preference or cooling requirements.
- They consume less power compared to traditional AC fans, making them more cost-effective and environmentally friendly.
- Many DC fans are designed to operate quietly, especially at lower speeds.
- DC fans feature PWM control, allowing for precise adjustment of fan speed by modulating the power supplied to the fan.



## Specification

Rated Voltage	12 VDC
Operation Voltage	7 ~ 13.2 VDC
Input Current	UL 0.10 A
Speed	3600 ± 10% R.P.M
Speed Control Type	PWM Control
Signal Output	Frequency Generator
Max. Air Flow (at Zero Static Pressure)	0.61 (0.55 min) m <sup>3</sup> / min 21.50 (19.35 min) CFM
Max. Air Pressure (at Zero Flow)	4.06 (3.29 min) mm-H <sub>2</sub> O 0.35 (0.13 min) inch-H <sub>2</sub> O
Acoustical Noise	28 ( 31 Max) dB-A
Insulation Resistance	10 MOhms @ 500 VDC
Dielectric Strength	5 mA @ 500 VAC 60Hz
Life Expectance	70,000 Hrs @ 40 °C; Humidity 15 % ~ 65 % RH
Rotation	Counter-Clockwise viewed from Inlet
Air Flow Direction	Air Exhaust over Strut
Insulation Class	UL: Class A

## Mechanical

Frame	Thermoplastic Black/ PBT+30 % GF of UL 94-V0
Fan Blade	Thermoplastic Black/ PBT+15 % GF of UL 94-V0
Bearing System	Two Ball Bearings
Weight	65 g

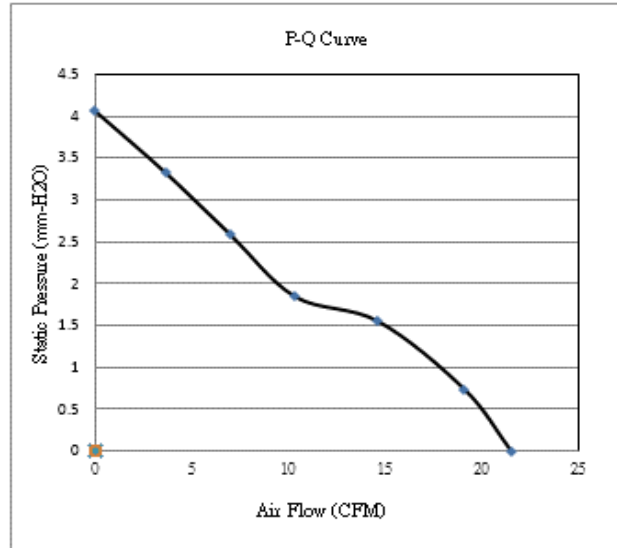
## Environment

Operation Temperature	-10 ~ 70 °C
Storage Temperature	-40 ~ 75 °C
Operation Humidity	5 to 90 % RH
Storage Humidity	5 to 95 % RH
Sinewave Displacement	0.75 mm
Frequency Range	10-55 Hz/ 30 sec; 55-10 Hz/30 sec
Linear Scanning	120 cycle
Endurance Time per Axis	2 Hrs
Peak Acceleration	50 g
Compliance	ROHs

## Protection

Locked Rotor Protection	Yes
Polarity Protection	Yes
Auto-Restart Protection	Yes

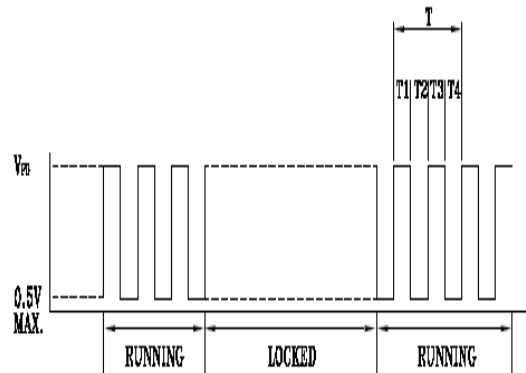
## P & Q Curve



## Signal Specification

Output Type	Open Collect
VFG Maximum Voltage	12 V
IC Maximum Current	5 mA
Low Level Voltage	0.5 V Max R ≥ VFG / Ic

## Frequency Generator Waveform



$$T = T1 + T2 + T3 + T4 = 60/N(\text{Sec}) \quad N: \text{SPEED (RPM)}$$

## PWM Control

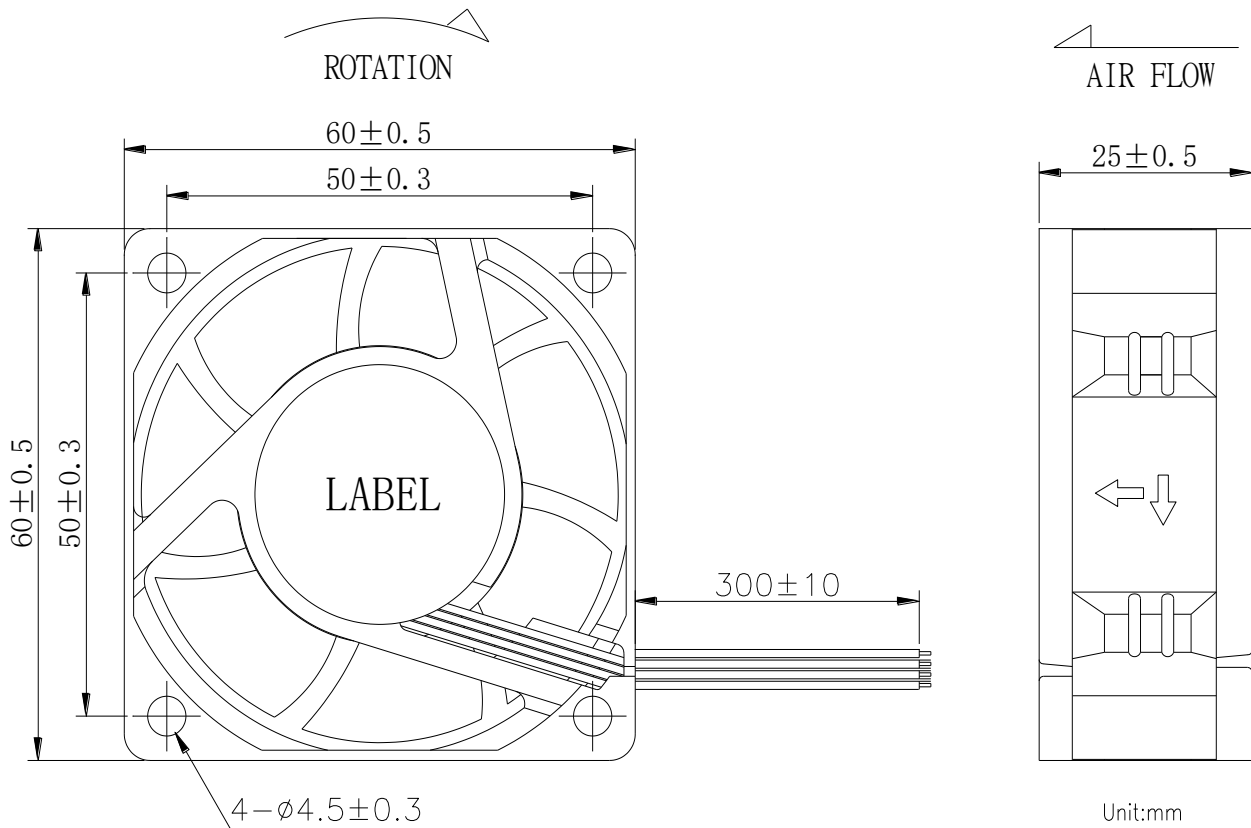
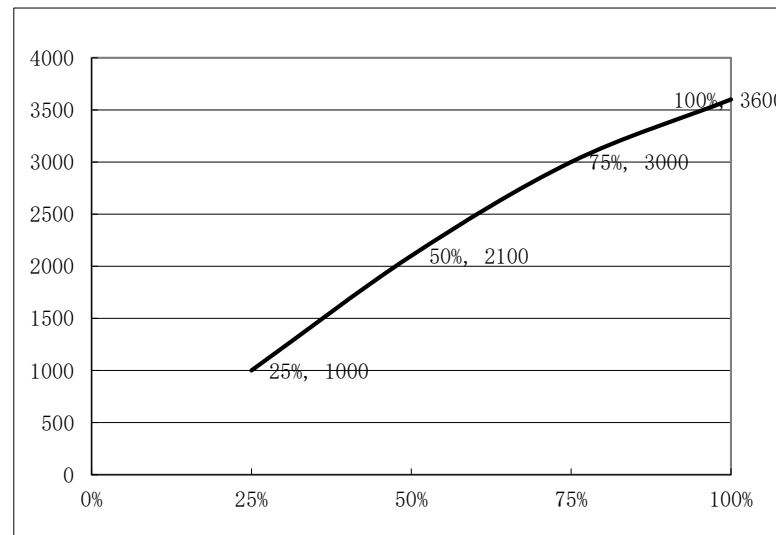
Control Signal	PWM Control
Input High Level Voltage	> 2.6 V , Max < 5 V
Input Low Level Voltage	Max < 0.5 V
PWM Frequency Range	1 KHZ ~ 100 KHZ
Max. Sink Current	8 mA

# Fan Speed Control

Input Voltage	5 VDC
PWM Frequency	25 KHZ

## Drawing

Duty (%)	25%	50%	75%	100%
Speed R.P.M (REF)	1000 REF	2100 ±25%	3000 ±20%	3600 ±10%



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