



Approval Specification for Cofan Part # 30-1142-02 Rev 02

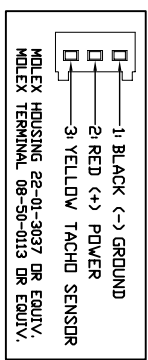
Aluminum Heatsink With 24VDC 40 x 40 x 10mm Fan and Chomerics
A580 Thermal Gap Pad

Solectron Part # XXXXXXXXX

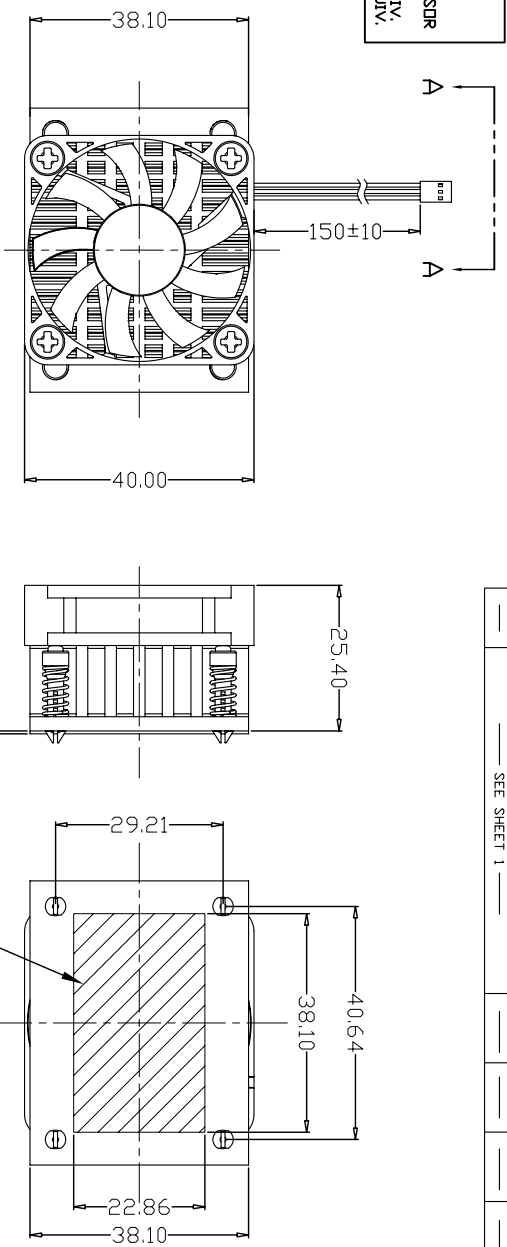
Revision Date: May-26-06

Cofan USA, 1400 Fulton Place, Unit A Fremont, CA 94539, www.cofan-usa.com, (800) 766-6097

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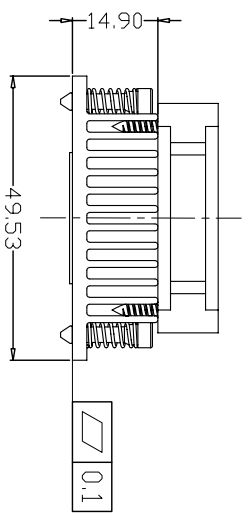
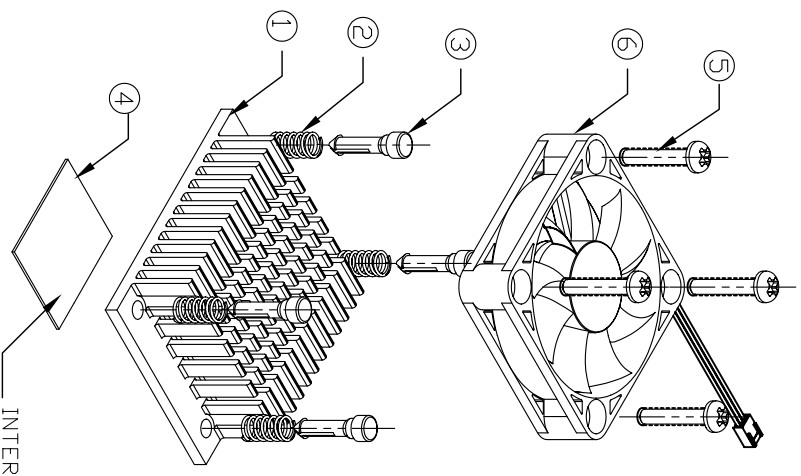


VIEW A-A

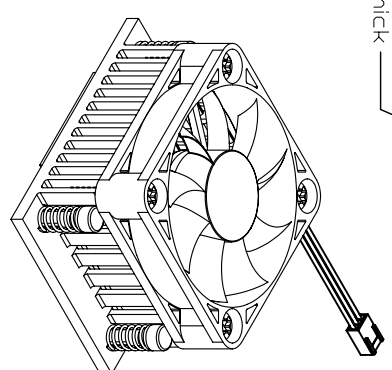


ROHS Compliant 2002/95/EC

INTERFACE MATERIAL A580, PSA ONE Side, .020" Thick



INTERFACE MATERIAL A580, PSA ONE Side, .020" Thick



| REVISION HISTORY | | | |
|------------------|-------------|------|--------|
| REV | DESCRIPTION | DRWN | CHK'D |
| 1 | SEE SHEET 1 | | |
| DATE | APPR'D | DATE | APPR'D |

| Item | ITEM NAME | PART # | MATERIAL | PLATING |
|------|-------------|----------------|--------------|---------------|
| ⑥ | DC FAN | F-4010L24B-04 | N/A | N/A |
| ⑤ | FAN SCREW | 60-1019 | STEEL | BLACK ZINC |
| ④ | THERMAL PAD | CHDMERICS | A580 | N/A |
| ③ | BRASS PIN | 50-1016 Rev 01 | BRASS | PASSIVATE |
| ② | SPRING | 50-1008 Rev 01 | SPRING STEEL | NICKLE PLATE |
| ① | HEAT SINK | 20-1317 | AL6063-T5 | BLACK ANODIZE |

| DID NOT SCALE DRAWING | | MATERIAL: | | CUSTOMER DRAWING NUMBER: | |
|---|--------|-----------------|--|--------------------------|--|
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETER TOLERANCES ARE: | | N/A | | ---- | |
| 1 PLACE .XX | F 0.4 | FINISH | | CUSTOMER PART NUMBER: | |
| 2 PLACE .XX | F 0.25 | N/A | | ---- | |
| 3 PLACE .XXX | F 0.13 | DRAWN BY: Bob G | | CUSTOMER DRAWING NUMBER: | |
| ANGLES EXCEPT 90° | F 0.57 | APPR BY: | | 30-1142-02 | |
| MAXIMUM SURFACE ROUGHNESS | 6.4 | APPROVED: | | COFAN PART NUMBER: | |
| | | | | 30-1142-02 | |

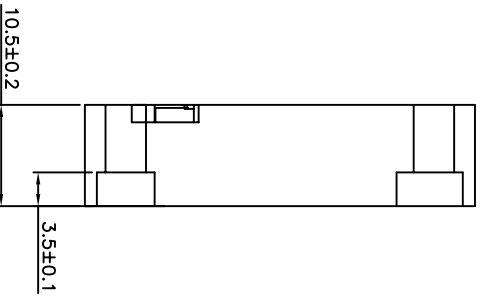
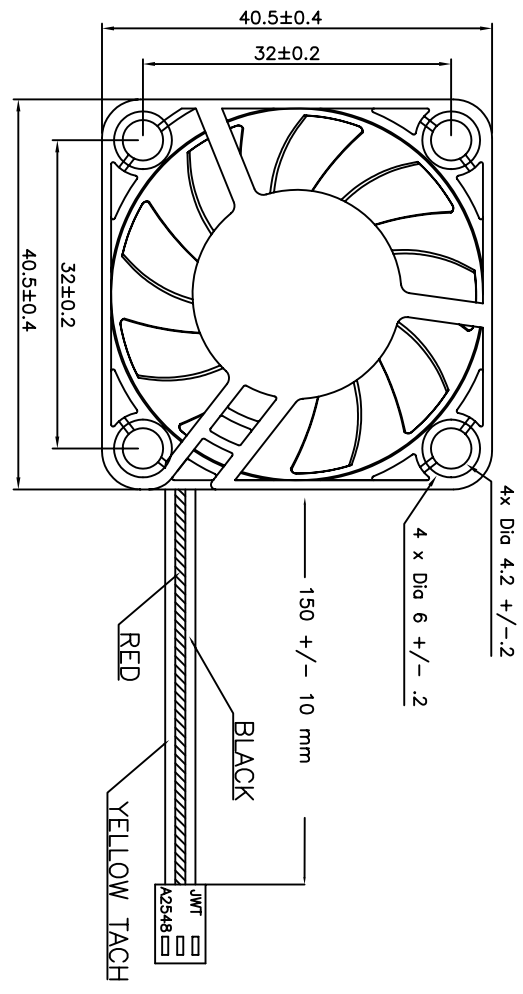
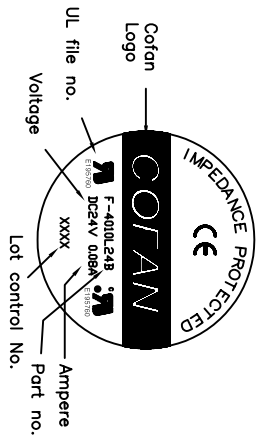


NAME: ACTIVE HS-01 ASSY
SCALE: 1:1
DATE DRAWN: May-26-2006

To Order Complete Assy Use Cofan Part # 30-1142-02
Solectron Part #: XXXXXXXXXXXX

TO ORDER FAN PER THIS DRAWING USE COFAN PART # F-4010L24B-04
 CALL (800) 766-6097 TO PLACE ORDER OR EMAIL TO:ben@cofan-usa.com
 www.cofan-usa.com

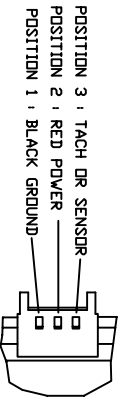
COFAN PART # F-4010L24B-04



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- PARTS LIST**
- ① 1X FAN MODEL F-4010L24B
 - ② 1X MOLEX HOUSING 22-01-3037, JMTA2546H00-3P, or JMT A2548H00-3P, JMT A2543H00-3P OR EQUIV, 3X MOLEX TERMINAL 08-50-013, JMT A2543210P-2 or EQUIV.

UL# E195760
 CUL# E195760
 TUV# B 04 03 52557 002
 CE# EN5008-1



- Note:
1. MTBF to be 100K+ Hrs (2 Ball Bearings)
 2. Fan to have 9 blades

| MODEL NO | RATED VOLTAGE | OPERATING VOLTAGE | RATED CURRENT | RATED POWER | RATED SPEED | MAX AIR FLOW | MAX STATIC AIR PRESSURE | NOISE LEVEL |
|------------|---------------|-------------------|---------------|-------------|-------------|--------------|-------------------------|-------------|
| | V | V | A | W | RPM | CFM | IN-H ₂ O | DBA |
| F-4010L24B | 24 | 20-28 | 0.08 | 1.92 | 4000 | 0.153 | 5.39 | 20.7 |

| DOW NOT SCALE DRAWING | | DRAWING NUMBER: F-4010L24B-04 | |
|--|---|-------------------------------|---------------|
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETRES TOLERANCES ARE: | | | |
| 1 PLACE x | ± 0.4 | | |
| 2 PLACE .xx | ± 0.25 | | |
| 3 PLACE .xxx | ± 0.13 | | |
| ANGLES EXCEPT 90° | ± 1° | | |
| MAXIMUM SURFACE ROUGHNESS | 125 | | |
| MATERIAL: | COFAN USA 1400 Fulton Place Fremont CA 94539 | | |
| FINISH: | Fan, 40 x 10mm, Cofan Model F-4010L24B, 24Vdc, 4K RPM | | |
| DRAWN BY: | DAN | COFAN PART NUMBER: | F-4010L24B-04 |
| ENGINEER: | | REV: | 04 |
| | | SHEET: | |
| | | DATE DRAWN: | May-25-06 |
| | | SCALE: | 1 : 1 |

Cofan USA
1400 Fulton Place
Fremont, CA 94539
USA

TEL: (510) 490-7533
FAX: (510) 490-7931
www.cofan-usa.com

SPECIFICATION FOR APPROVAL

Rev 04

1. SCOPE:

This specification defines the electrical and mechanical characteristics of the following DC brushless axial flow fan:

| Item | | Description | |
|------|--|---|---|
| 1-1 | Part Number | F-4010L24B | |
| 1-2 | Outline Dimensions | 40 x 40 x 10 mm (see dimensions drawing #7) | |
| 1-3 | Bearing System | 2 Ball Bearing | |
| 1-4 | Rated Voltage | 24 VDC | |
| 1-5 | Operating Voltage | 20 – 28 VDC | |
| 1-6 | Input Current | 0.08A | |
| 1-7 | Input Power | 1.92 W | |
| 1-8 | Speed | 4000 R.P.M. | a. 25°C, 65% RH, b. Free Air c. Rated Voltage |
| 1-9 | Max. Air Flow (At zero static pressure) | 5.39 CFM | a. Rated Voltage b. AMCA Standard |
| 1-10 | Max. Air Pressure (At zero airflow) | 0.056 InH ₂ O | c. Rated Current |
| 1-11 | Acoustical Noise (Avg) | 20.7 dBA | a. Rated Voltage b. Measured in a Non-Echo Chamber c. CNS 8753 Standard d. ISO 3744 Test Condition |
| 1-12 | Life Expectance | 100,000 hours | a. Continuous operation |
| 1-13 | Insulation Type | UL: Class A | |
| 1-14 | Weight | 10 Grams | |
| 1-15 | Rotation | Clockwise from label side | |

2. Major Material

| Materials / Parts | Specification | Remarks |
|-------------------|---|------------------------|
| Plastic Material | Frame: PBT70%: + FIBER30% Impeller: PBT85% + FIBER15% | UL: 94V-0 UL: 94V-0 |
| Lead Wire | (+) Red; (-) Black; (Signal) Yellow; AWG#24(2 Pin), #28(3Pin) Standard wire length is 6", custom lengths are available at no extra charge. | UL: 1007-F |
| Connector | See Drawing | |

3. Electrical Characteristics & Test Environmental:

| Item | Specification / Condition |
|------|---|
| 3-1 | Operation Temperature -10°C ~ +70°C |
| 3-2 | Storage Temperature -40°C ~ +75°C |
| 3-3 | Operating Humidity 5 to 90% RH |
| 3-4 | Storage Humidity 5 to 95% RH |
| 3-5 | Locked Rotor Protection <ul style="list-style-type: none"> a. The current will shut down when rotation is locked b. Automatic restart after a continuous 72 hours rotation lock at rated voltage. c. Impedance of motor winding protects motor from fire after 72 hours of locked rotor condition at the rated voltage. d. Signal Alarm- Optional |
| 3-6 | Insulation Strength 10Meg Ohm min at 500VDC Between Frame and (+) terminal |
| 3-7 | Dielectric Strength Withstand 5 mA Max 500 VAC 60 Hz for one minute, (between frame and (+) terminal) |
| 3-8 | Vibration Test Vibration test in rest status, scan frequency : 5~55Hz 1OCT/Min. in the 3 directions(X.Y.Z), take 16 rotating scan for each axis. |
| 3-9 | Shock Test Test of acceleration 30G is applied in the 3 directions (X.Y.Z) and 6 faces, take 11± 1ms(Half Chord Wave), 3 times for each face. |
| 3-10 | Noise Level Measured in a semi-anechoic chamber. The fan is running in free air with Microphone at a distance of one meter from the fan intake. |
| 3-11 | Tolerance ±10% on rated power and current. |
| 3-12 | Polarity Protection Capable of withstanding reverse polarity connection |

4. Safety Approvals

| Safety Approvals | File No. |
|------------------|-------------------|
| UL | E195760 |
| CUL | E195760 |
| TUV | B 04 03 52557 002 |
| CE | EN5008-1 |

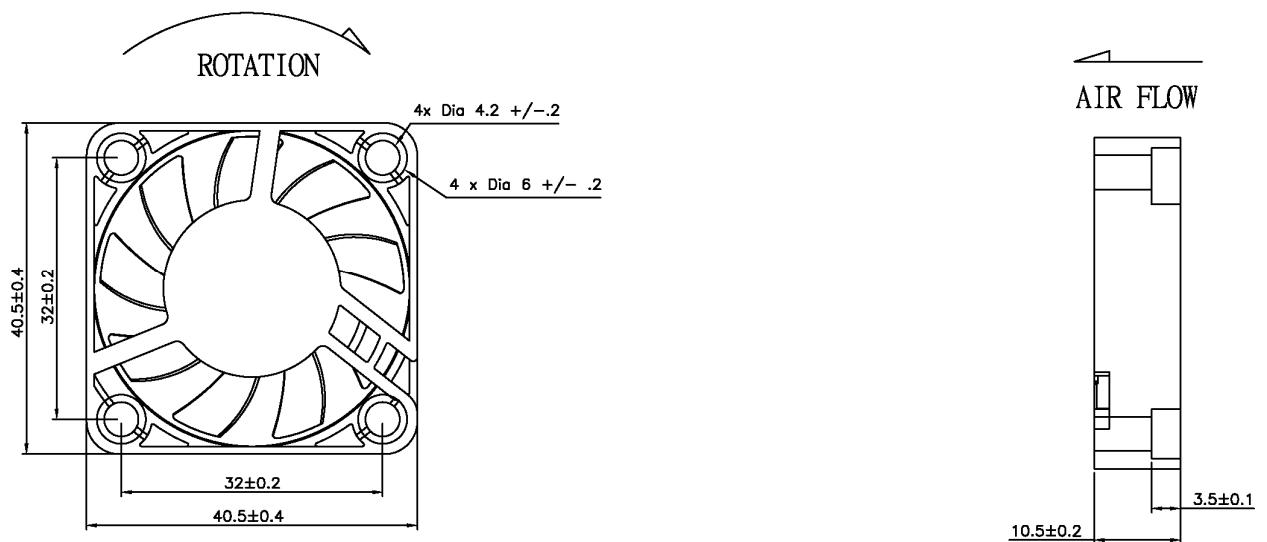
5. Ozone Depleting Substances

5-1. None of our products or manufacturing processes contain or require the use of ozone-depleting chemicals such as PBB's, PBBO's, CFC's, PBBE's, PBDPE's or HCFC's.

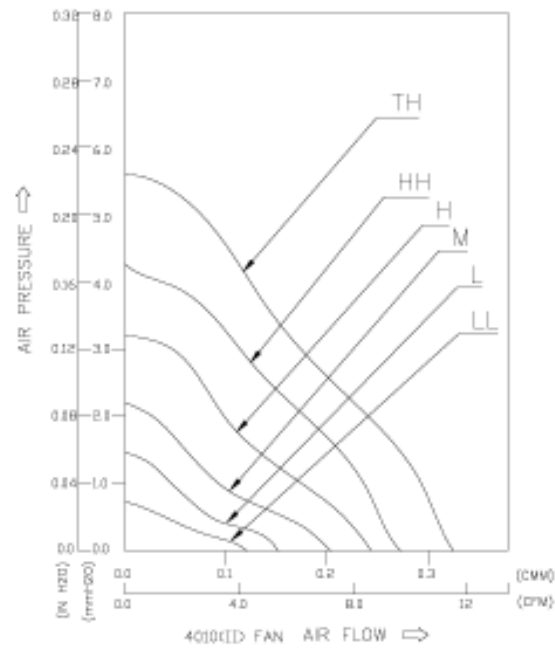
6. Production Location

6-1. Products will be produced in China and Taiwan

7. Dimensional Drawing



8. Performance Curve



9. Sensor Description

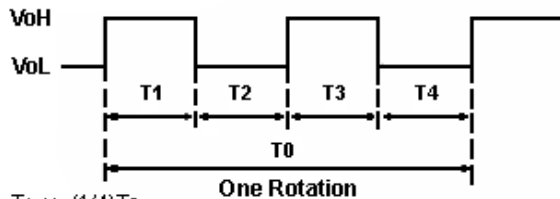
- A. Tachometer Pulse Sensor
- B. 2 Pulses Per Revolution
- C. Drives Pin Between Nominal 0 and 12V

Pulse Sensor

(2 Pulse per revolution signal)

Pulse sensors are used for detecting the rotational speed of the fan motor

Output Waveform



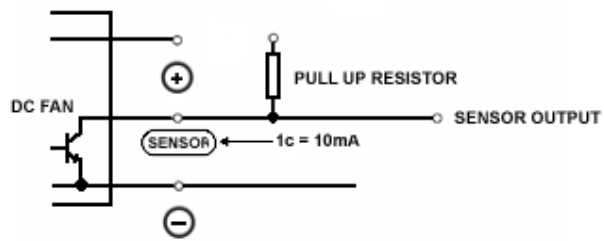
$$T_{1-4} \approx (1/4)T_0$$

$$T_{1-4} \approx (1/4)T_0$$

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

Output Circuit

Open Collector



If fan locked on VH, signal stays locked. If fan locked on VL, signal stays at VL for a few hundreds MS, then moves to VH.