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SPECIFICATION FOR APPROVAL

Customer:

| | | |
|--------------------|----------------|-----------|
| Description: | DC FAN | |
| Customer P/N: | | REV: |
| Delta Model NO.: | AFB1212SHE-R00 | |
| Sample Rev: | 00 | Issue NO: |
| Sample Issue Date: | SEP.19.2007 | Quantity: |

1. SCOPE:

THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THE DC BRUSHLESS AXIAL FLOW FAN. THE FAN MOTOR IS WITH TWO PHASES AND FOUR POLES.

2. CHARACTERS:

| ITEM | DESCRIPTION |
|--|---|
| RATED VOLTAGE | 12 VDC |
| OPERATION VOLTAGE | 4.0 - 13.2 VDC |
| INPUT CURRENT | 1.05 (MAX. 1.60) A |
| INPUT POWER | 12.60 (MAX. 19.20) W |
| SPEED | 3700 R.P.M. (REF.) |
| MAX. AIR FLOW (AT ZERO STATIC PRESSURE) | 4.300 (MIN. 3.950) M ³ /MIN. 151.85 (MIN. 139.49) CFM |
| MAX. AIR PRESSURE (AT ZERO AIRFLOW) | 14.50 (MIN. 12.30) mmH ₂ O 0.571 (MIN. 0.484) inchH ₂ O |
| ACOUSTICAL NOISE (AVG.) | 53.0 (MAX. 56.0) dB-A |
| INSULATION TYPE | UL: CLASS A |

(continued)

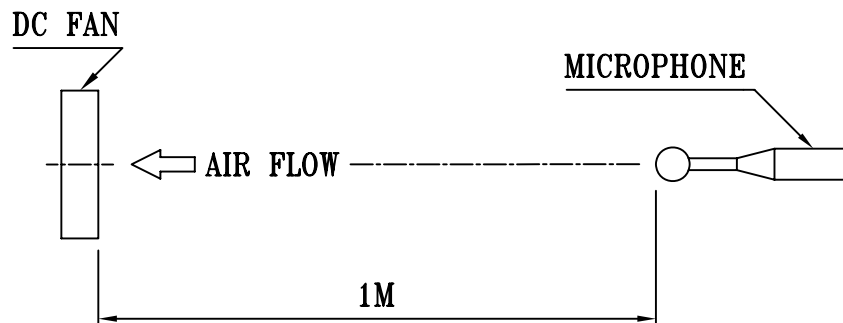
PART NO:

DELTA MODEL:

AFB1212SHE-R00

| | |
|------------------------|--|
| INSULATION STRENGTH | 10 MEG OHM MIN. AT 500 VDC (BETWEEN FRAME AND (+) TERMINAL) |
| DIELECTRIC STRENGTH | 5 mA MAX. AT 500 VAC 60 Hz ONE MINUTE, (BETWEEN FRAME AND (+) TERMINAL) |
| EXTERNAL COVER | OPEN TYPE |
| LIFE EXPECTANCE | 70,000 HOURS CONTINUOUS OPERATION AT 40 °C WITH 15 ~ 65 %RH. |
| ROTATION | CLOCKWISE VIEW FROM NAME PLATE SIDE |
| OVER CURRENT SHUT DOWN | THE CURRENT WILL SHUT DOWN WHEN LOCKING ROTOR. |
| LEAD WIRE | UL 1007 -F- AWG #24 BLACK WIRE NEGATIVE(-) RED WIRE POSITIVE(+) BLUE WIRE LOCK SIGNAL(-R00) |

- NOTES: 1. ALL READINGS ARE MEASURED AFTER STABLY WARMING UP THROUGH 10 MINUTES.
2. THE VALUES WRITTEN IN PARENS , (), ARE LIMITED SPEC.
3. ACOUSTICAL NOISE MEASURING CONDITION:



NOISE IS MEASURED AT RATED VOLTAGE IN FREE AIR IN ANECHOIC CHAMBER WITH B & K SOUND LEVEL METER WITH MICROPHONE AT A DISTANCE OF ONE METER FROM THE FAN INTAKE.

PART NO:

DELTA MODEL: AFB1212SHE-R00

8. BASIC RELIABILITY REQUIREMENT:

8-1. THERMAL LOW TEMPERATURE: -40°C
CYCLING HIGH TEMPERATURE: +80°C
 SOAK TIME: 30 MINUTES
 TRANSITION TIME < 5 MINUTES
 DUTY CYCLES: 5

8-2. HUMIDITY TEMPERATURE: +25°C ~ +65°C
EXPOSURE HUMIDITY: 90-98% RH @ +65°C
 FOR 4 HOURS/CYCLE
 POWER: NON-OPERATING
 TEST TIME: 168 HOURS

8-3. VIBRATION TEMPERATURE: +25°C
 ORIENTATION: X, Y, Z
 POWER: NON-OPERATING
 VIBRATION LEVEL: OVERALL gRMS=3.2

| FREQUENCY(Hz) | PSD(G ² /Hz) |
|---------------|-------------------------|
| 10 | 0.040 |
| 20 | 0.100 |
| 40 | 0.100 |
| 800 | 0.002 |
| 1000 | 0.002 |

TEST TIME: 2 HOURS ON EACH ORIENTATION

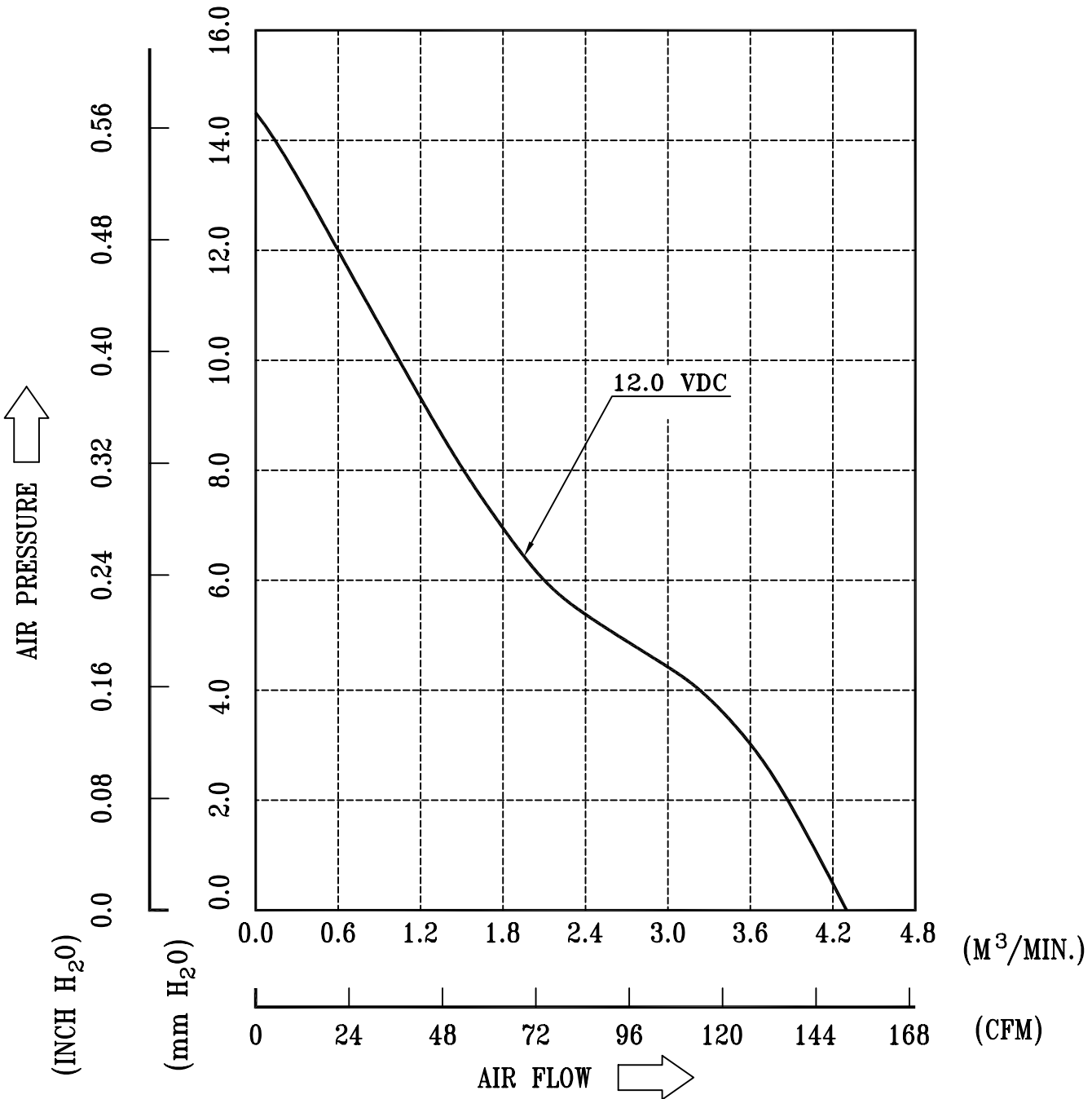
8-4. MECHANICAL TEMPERATURE: +20°C
SHOCK ORIENTATION: X, Y, Z
 POWER: NON-OPERATING
 ACCELERATION: 20 G MIN.
 PULSE: 11 ms HALF-SINE WAVE
 NUMBER OF SHOCKS: 5 SHOCKS
 FOR EACH DIRECTION

8-5. LIFE TEMPERATURE: MAX , OPERATING TEMPERATURE
 POWER: OPERATING
 DURATION: 1000 HOURS MIN.

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9. P & Q CURVE:



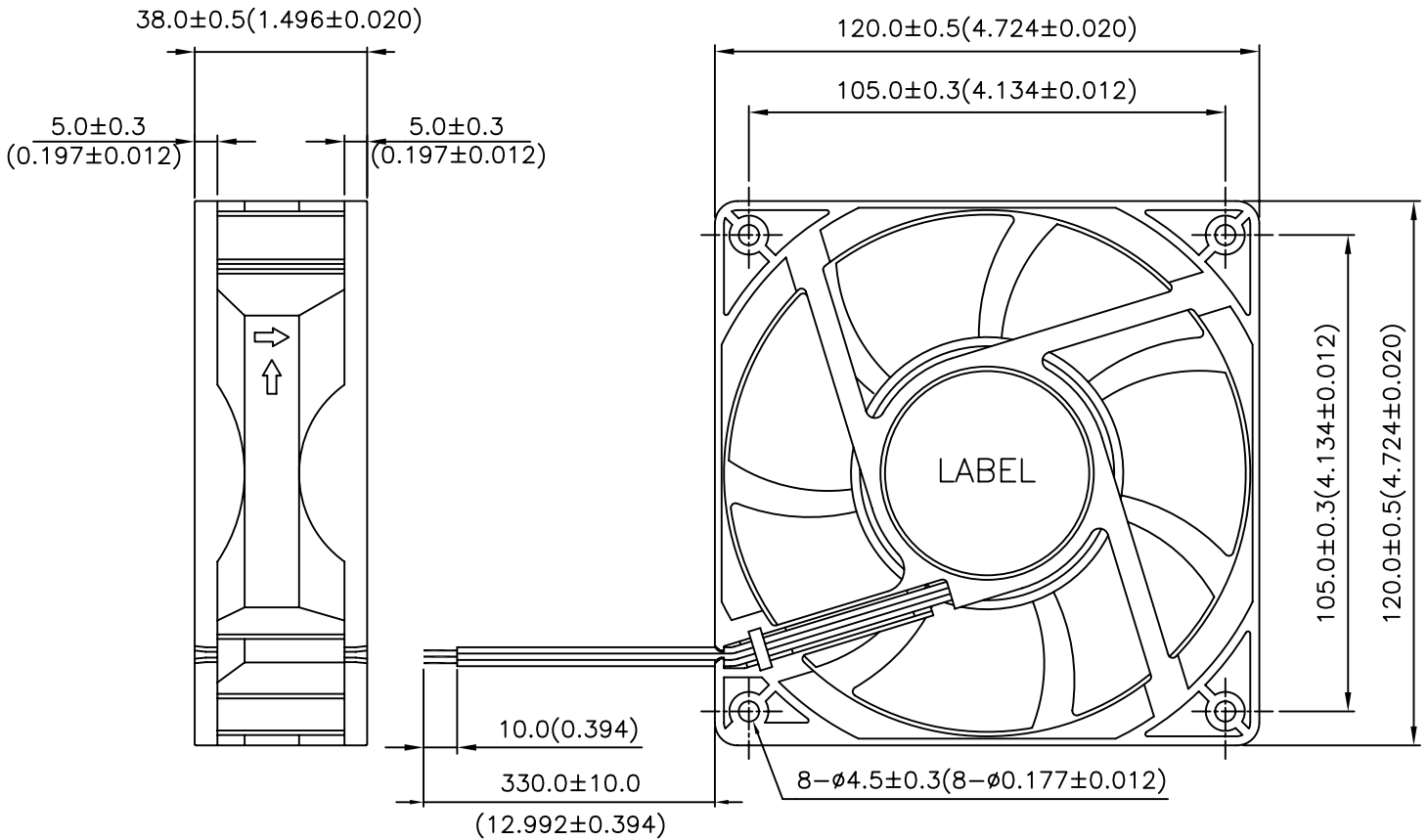
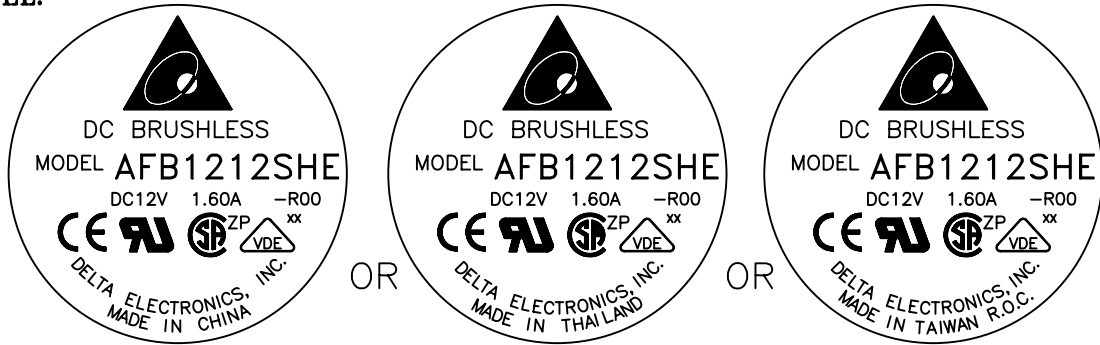
* TEST CONDITION: INPUT VOLTAGE ----- OPERATION VOLTAGE
TEMPERATURE ----- ROOM TEMPERATURE
HUMIDITY ----- 65%RH

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10. DIMENSION DRAWING:

LABEL:



UL 1007 -F- AWG #24

BLACK WIRE NEGATIVE(-)

RED WIRE POSITIVE(+)

BLUE WIRE LOCK SIGNAL(-R00)

page: 6

UNIT: mm(INCH)

A00

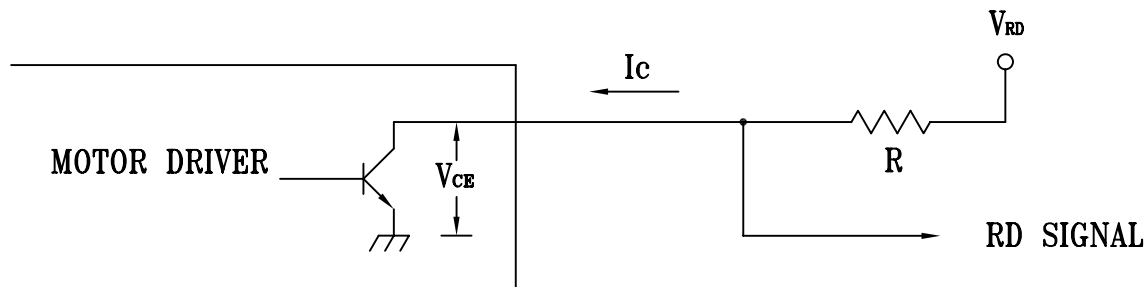
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11. ROTATION DETECT (RD) SIGNAL:

1. OUTPUT CIRCUIT - OPEN COLLECTOR MODE:



CAUTION:

THE LEAD WIRE OF RD SIGNAL CAN NOT TOUCH
THE LEAD WIRE OF POSITIVE OR NEGATIVE.

2. SPECIFICATION:

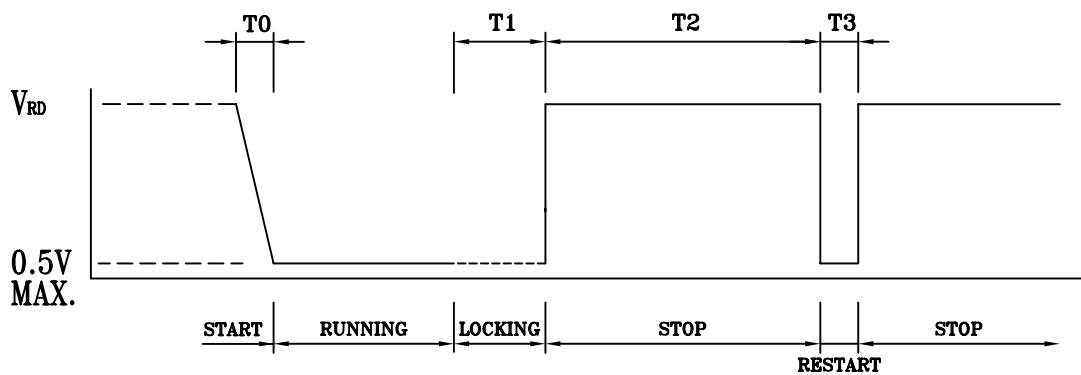
$V_{ce}(\text{sat})=0.5\text{V MAX.}$

$V_{rd} =45\text{V MAX.}$

$I_c =5\text{mA MAX.}$

$R \geq V_{rd}/I_c$

3. ROTATION DETECT WAVEFORM:



$T_0=100\text{ns TYP.}$

$T_2=2.1 \pm 0.7\text{s}$

$T_1=10.0 \pm 4.0\mu\text{s}$

$T_3=200 \pm 70\text{ms}$