



客戶承認書
SPECIFICATION FOR APPROVAL

CUSTOMER: 達瑞美

DESCRIPTION: DC FAN

CUSTOMER P/N: _____ REV: _____

DELTA MODEL: FFB0824EHE7BT REV: 00

SAMPLE ISSUE DATE: 07/28/2017

QUANTITY: _____

**PLEASE SIGN BACK ONE COPY OF THIS SPECIFICATION
AFTER COMPLETION OF APPROVAL**

APPROVED BY: _____

DATE: _____

DELTA ELECTRONICS COMPONENTS (WUJIANG) LTD.
FAN/MOTOR PLANT

No.1688 Jiangxing East Road, WuJiang Economy Development Zone
Wujiang City JiangSu Province, P. R. C.

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STATEMENT OF DEVIATION

NONE

DESCRIPTION :

DELTA DOC CENTER

SPECIFICATION FOR APPROVAL

| | | |
|--------------------|---------------|-----------------------------------|
| Customer: | 達瑞美 | |
| Description: | DC FAN | |
| Customer P/N: | | REV: |
| Delta Model NO.: | FFB0824EHE7BT | Delta Safety Model NO: FFB0824EHE |
| Sample Rev: | 00 | Issue NO: |
| Sample Issue Date: | JUL-28-2017 | 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 | 24 VDC |
| OPERATION VOLTAGE | 14.0 - 26.4 VDC |
| INPUT CURRENT | 0.50 (MAX. 0.75) A SAFETY CURRENT ON LABEL : 0.75A |
| INPUT POWER | 12.00 (MAX. 18.00) W |
| SPEED | 5700 R.P.M. (REF.) |
| MAX. AIR FLOW (AT ZERO STATIC PRESSURE) | 2.270 (MIN. 2.040) M ³ /MIN. 80.16 (MIN. 72.04) CFM |
| MAX. AIR PRESSURE (AT ZERO AIRFLOW) | 20.63 (MIN. 16.71) mmH ₂ O 0.812 (MIN. 0.658) inchH ₂ O |
| ACOUSTICAL NOISE (AVG.) | 52.5 (MAX. 56.5) dB-A |
| INSULATION TYPE | UL: CLASS A |

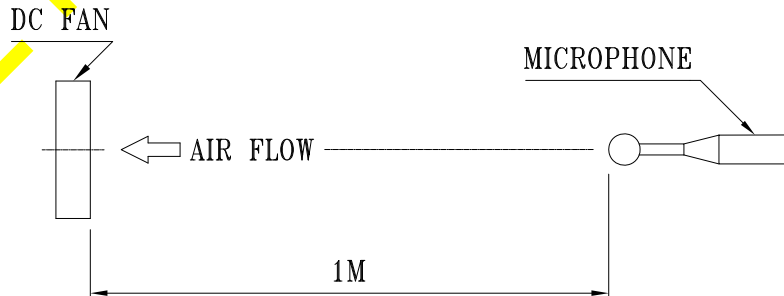
(continued)

PART NO:

DELTA MODEL: FFB0824EHE7BT

| | |
|---------------------------------------|--|
| INSULATION STRENGTH | 10 MEG OHM MIN. AT 500 VDC (BETWEEN FRAME AND (+) TERMINAL) |
| DIELECTRIC STRENGTH | 5 mA MAX. AT 500 VAC 50/60 Hz ONE MINUTE, (BETWEEN FRAME AND (+) TERMINAL) |
| EXTERNAL COVER | OPEN TYPE |
| LIFE EXPECTANCE (AT LABEL VOLTAGE) | 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 FREQUENCY(-F00) |

- NOTES: 1. ALL READINGS ARE MEASURED AFTER STABLY WARMING UP THROUGH 10 MINUTES.
2. STANDARD AIR PROPERTY IS AIR AT (Td) 25°C TEMPERATURE, (RH) 65% RELATIVE HUMIDITY, AND (Pb) 760 mmHg BAROMETRIC PRESSURE.
3. THE VALUES WRITTEN IN PARENS , (), ARE LIMITED SPEC.
4. 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: FFB0824EHE7BT

3. MECHANICAL:

- 3-1. DIMENSIONS _____ SEE DIMENSIONS DRAWING
- 3-2. FRAME _____ PLASTIC UL: 94V-0
- 3-3. IMPELLER _____ PLASTIC UL: 94V-0
- 3-4. BEARING SYSTEM _____ TWO BALL BEARINGS
- 3-5. WEIGHT _____ 170 GRAMS

4. ENVIRONMENTAL:

- 4-1. OPERATING TEMPERATURE _____ -10 TO +70 DEGREE C
- 4-2. STORAGE TEMPERATURE _____ -40 TO +75 DEGREE C
- 4-3. OPERATING HUMIDITY _____ 5 TO 90 % RH
- 4-4. STORAGE HUMIDITY _____ 5 TO 95 % RH

5. PROTECTION:

5-1. LOCKED ROTOR PROTECTION

IMPEDANCE OF MOTOR WINDING PROTECTS MOTOR FROM FIRE IN 96 HOURS OF LOCKED ROTOR CONDITION AT THE RATED VOLTAGE.

5-2. POLARITY PROTECTION

BE CAPABLE OF WITHSTANDING IF REVERSE CONNECTION FOR POSITIVE AND NEGATIVE LEADS.

6. RE OZONE DEPLETING SUBSTANCES:

- 6-1. NO CONTAINING PBBs, PBBOs, CFCs, PBBEs, PBDPEs AND HCFCs.

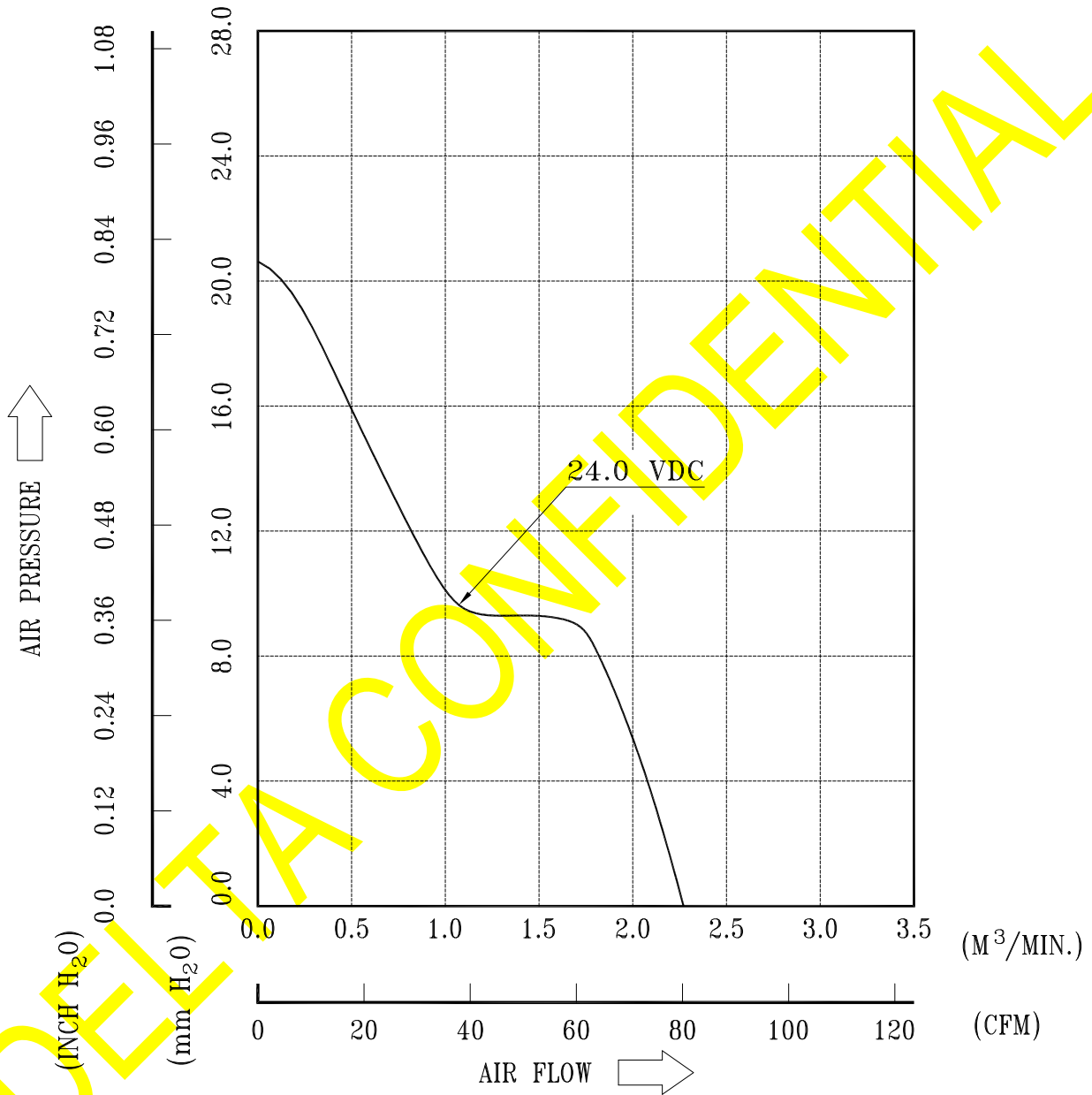
7. PRODUCTION LOCATION

- 7-1. PRODUCTS WILL BE PRODUCED IN CHINA OR THAILAND .

PART NO:

DELTA MODEL: FFB0824EHE7BT

8. P & Q CURVE:



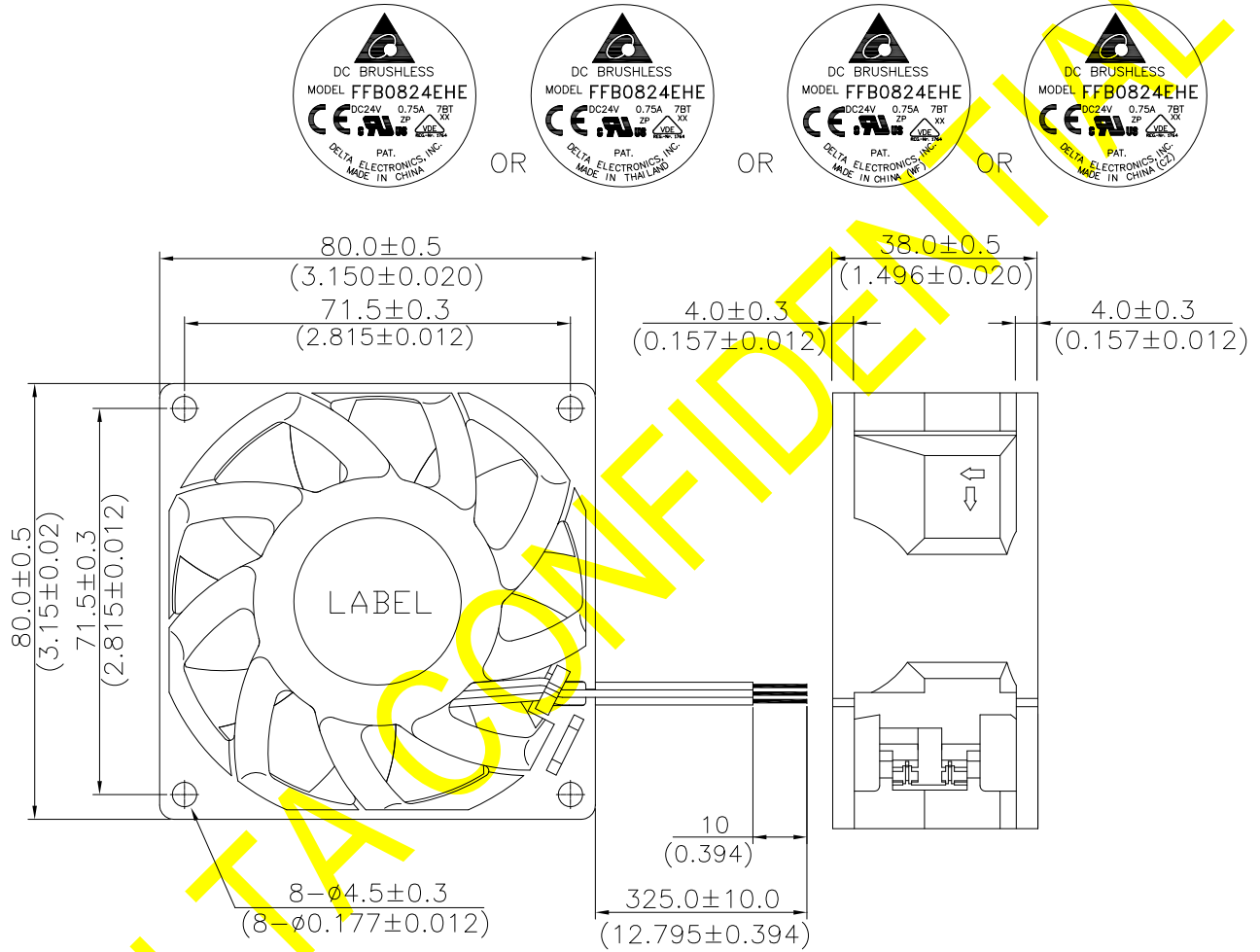
* TEST CONDITION: INPUT VOLTAGE ——— OPERATION VOLTAGE
TEMPERATURE ——— ROOM TEMPERATURE
HUMIDITY ——— 65%RH

PART NO:

DELTA MODEL: FFB0824EHE7BT

9. DIMENSION DRAWING:

LABEL:



NOTES:

1. LEAD WIRE UL1007 AWG#24
RED WIRE----(+)
BLACK WIRE----(-)
BLUE WIRE----(-F00)
2. PWB MUST BE COATING ON BOTH SIDES AND THE PINS OF THE WINDING FOR 1B31.
3. THIS PRODUCT IS RoHS COMPLIANT

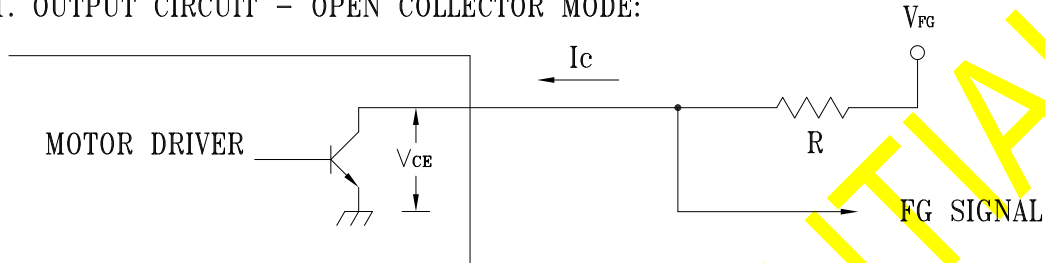
UNIT:mm(INCH)

PART NO:

DELTA MODEL: FFB0824EHE7BT

10. FREQUENCY GENERATOR (FG) SIGNAL:

1. OUTPUT CIRCUIT - OPEN COLLECTOR MODE:



CAUTION:

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

2. SPECIFICATION:

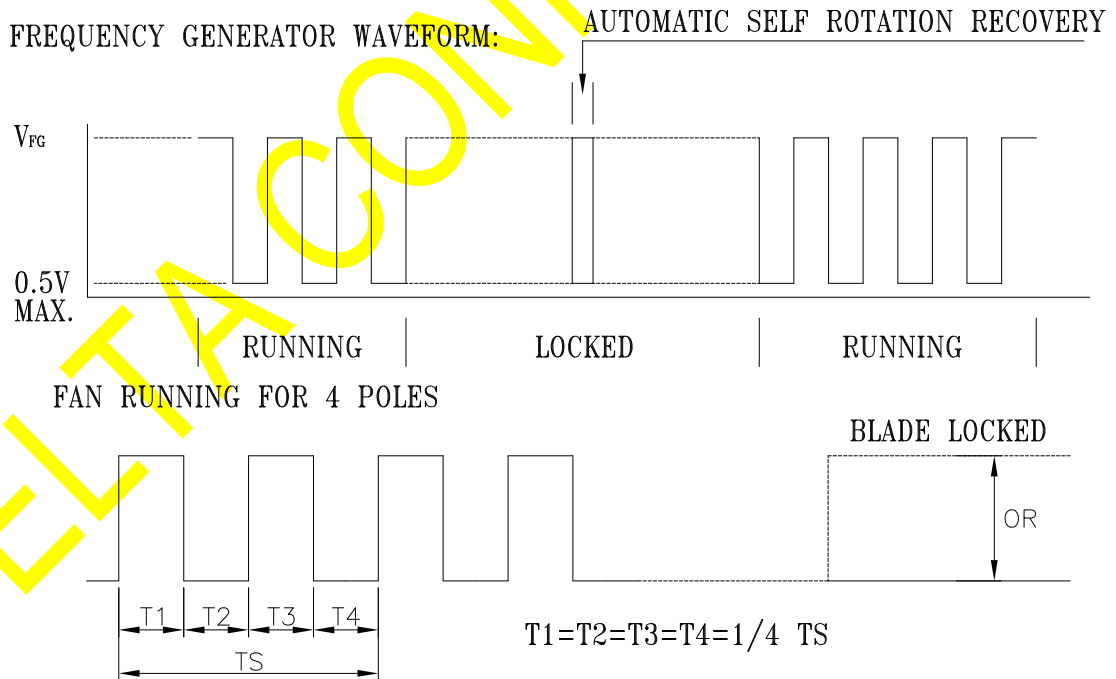
$V_{CE}(\text{sat}) = 0.5\text{V MAX.}$

$V_{FG} = 26.4\text{VDC MAX.}$

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

$R \geq V_{FG}/I_c$

3. FREQUENCY GENERATOR WAVEFORM:



$N = \text{R.P.M}$

$TS = 60/N(\text{SEC})$

*VOLTAGE LEVEL AFTER BLADE LOCKED

*4 POLES



Application Notice

- 1. Delta will not guarantee the performance of the products if the application condition falls outside the parameters set forth in the specification.**
- 2. A written request should be submitted to Delta prior to approval if deviation from this specification is required.**
- 3. Please exercise caution when handling fans. Damage may be caused when pressure is applied to the impeller, if the fans are handled by the lead wires, or if the fan was hard-dropped to the production floor.**
- 4. Except as pertains to some special designs, there is no guarantee that the products will be free from any such safety problems or failures as caused by the introduction of powder, droplets of water or encroachment of insect into the hub.**
- 5. The above-mentioned conditions are representative of some unique examples and viewed as the first point of reference prior to all other information.**
- 6. It is very important to establish the correct polarity before connecting the fan to the power source. Positive (+) and Negative (-). Damage may be caused to the fans if connection is with reverse polarity, if there is no foolproof method to protect against such error specifically mentioned in this spec.**
- 7. Delta fans without special protection are not suitable where any corrosive fluids are introduced to their environment.**
- 8. Please ensure all fans are stored according to the storage temperature limits specified. Do not store fans in a high humidity environment. We highly recommend performance testing is conducted before shipping, if the fans have been stored over 6 months.**
- 9. Not all fans are provided with the Lock Rotor Protection feature. If you impair the rotation of the impeller for the fans that do not have this function, the performance of those fans will lead to failure.**
- 10. Please be cautious when mounting the fan. Incorrect mounting of fans may cause excess resonance, vibration and subsequent noise.**
- 11. It is important to consider safety when testing the fans. A suitable fan guard should be fitted to the fan to guard against any potential for personal injury.**
- 12. Except where specifically stated, all tests are carried out at room (ambient) temperature and relative humidity conditions of 25°C, 65% RH. The test value is only for fan performance itself.**
- 13. Be certain to connect an “ 4.7μF or greater” capacitor to the fan externally when the application calls for using multiple fans in parallel, to avoid any unstable power.**

File E132003
Project 00NK09772

Issued: June 2, 2000
Revised: **August 27, 2005**

REPORT

On

COMPONENT - FANS, ELECTRIC

Delta Electronics, Inc.
Taoyuan Hsien, Taiwan

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DESCRIPTION

PRODUCT COVERED:

USR Component - DC Fans, Models see "ELECTRICAL RATINGS" for details.

USR, CNR - DC Component Fans, Models FFB0824SH(Y) and FFB0848SH(Y) series, where (Y) may be xxxxx, where x may be A through Z, 0 through 9, "-" or blank.

MODEL REFERENCES:

New Model Numbers replace original model numbers as below tables for details. All references are identical to the original models.

| <u>New Models Nos.</u> | <u>Original Model Nos.</u> |
|------------------------|---|
| EFC1248EE(Y) | EFC1248EE |
| FFB0812HHE(Y) | FFB0812HHE |
| FFB0812VHE(Y) | FFB0812VHE |
| FFB0812SHE(Y) | FFB0812SHE |
| FFB0812EHE(Y) | FFB0812EHE |
| FFB0812GHE(Y) | FFB0812GHE, FFB0812GHE-F00, FFB0812GHE-R00 |
| FFB0812UHE(Y) | FFB0812UHE, FFB0812UHE-F00, FFB0812UHE-R00 |
| FFB0824HHE(Y) | FFB0824HHE |
| FFB0824VHE(Y) | FFB0824VHE |
| FFB0824SHE(Y) | FFB0824SHE |
| FFB0824EHE(Y) | FFB0824EHE |
| FFB0848SHE(Y) | FFB0848SHE |
| FFB0848VHE(Y) | FFB0848VHE |
| FFB0848HHE(Y) | FFB0848HHE |

Note: Above (Y) may be xxxxx where x may be A through Z; 0 through 9, "-" or blank.

ELECTRICAL RATINGS:

| Model Nos. | V dc | mA |
|-----------------------|------|------|
| EFC1248EE(Y) | 48 | 400 |
| FFB0812HHE(Y) | 12 | 300 |
| FFB0812VHE(Y) | 12 | 570 |
| FFB0812SHE(Y) | 12 | 870 |
| FFB0812EHE(Y) | 12 | 1350 |
| *FFB0812GHE(Y) | 12 | 1380 |
| * | | |
| *FFB0812UHE(Y) | 12 | 1800 |
| FFB0824HHE(Y) | 24 | 230 |
| FFB0824VHE(Y) | 24 | 360 |
| FFB0824SHE(Y) | 24 | 510 |
| FFB0824EHE(Y) | 24 | 750 |
| FFB0848SHE(Y) | 48 | 240 |
| FFB0848VHE(Y) | 48 | 170 |
| FFB0848HHE(Y) | 48 | 120 |
| FFB0848EHE(Y) | 48 | 300 |
| FFB0824EHE-SV09(Y) | 18 | 570 |
| FFB0824SH(Y) | 24 | 280 |
| FFB0848SH(Y) | 48 | 170 |

Note: Above (Y) may be xxxxxx where x may be A through Z; 0 through 9, "-" or blank.

MODEL DIFFERENCES:

All models are similar to each other except for the electrical ratings.

Constructional data for electric motor-operated appliances / electric heating appliances / electric motor operated tools

Applicant: **Montec-Elcon GmbH & Co. KG**, Am Alten Galgen 10, 56410 Montabaur, Germany

1.1 Manufacturer: Delta Electronics Inc.
9th Floor Asia Enterprise Center, 144 Min Chuan E. Road
Taipei, Taiwan R.O.C.

1.2 Place of manufacture: 1. Delta Electronics Components (Dongguan) Co., Ltd.
2. Delta Electronics Components (Thailand) Co., Ltd.

1.3 Product category: Einbaulüfter

1.4 Type: a. FFB0812HHE/VHE/SHE/EHE
b. FFB0824HHE/VHE/SHE/EHE
c. FFB0848HHE/VHE/SHE

2.1 Nominal Voltage: a. 12VDC b. 24VDC c. 48VDC

2.2 Nominal input: max. a. 300/570/870/1350mA
b. 230/360/510/750mA
c. 120/170/240mA

2.3 Protection against electric shock: Class III (extra-low voltage) - Schutzkleinspannung

2.4 Degree of protection: abgedeckte Ausführung

2.5 Supply connection: Litzenanschluß

2.5.1 Kind of connection:

2.6 Materials: 2.6.1 Enclosure: Polybutylene Terephthalate UL 94 V-0

2.6.2 Water container:

2.7 Refrigerating equipment: permissible operating overpressure, pressure side _____ bar

2.8 Type of refrigerant:

2.9 File reference - compressor:

2.10 Quantity of coolant: kg

3.1 Further technical information (short-time, intermittent duty, operating time, nominal contents, operating overpressure):

4 Data about the motor

4.1 Manufacturer:

4.2 Number of revolutions:

4.3 Type reference:

4.4 Kind of motor:

4.5 Nominal voltage:

| 4.6 Winding: | Resistance Ω | Wire thickness | Number of turns: | Insulation class (insul. mat.) |
|--------------|-----------------------------|----------------|------------------|--------------------------------|
| 1 | s. beiliegende Datenblätter | | | E |
| 2 | | | | |
| 3 | | | | |

4.7 Information on ambient temperatures (if higher than 25°C): -10°C / +70°C

4.8 Temperature class:

5. Components installed in the appliance (switch, temperature regulator, heater, cables, capacitor, sockets etc.)

siehe beigefügte Liste

Offenbach, 7.4.00

Place: Montabaur

Date: 23.02.2000

VDE Testing and Certification Institute
Department F13

Montec-Elcon
GmbH & Co KG
Postfach 1329
D-56403 Montabaur
Montec-Elcon GmbH & Co. KG

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [AC Fans](#) category:

Click to view products by [Delta](#) manufacturer:

Other Similar products are found below :

[8850A](#) [A2D200-AA04-41](#) [A2E165-AA17-01](#) [AC430019H-012](#) [144LS-2282-010](#) [1500-FAN-01](#) [25.350.5253.0](#) [S2E250-AL06-70](#) [A2D210-AB10-05](#) [A2D240-AA02-02](#) [23241-3](#) [25.345.5353.0](#) [281DY-1LP14-000B](#) [344DY-1LP11-000](#) [39.703.0253.0](#) [USTF1203224VHW](#) [3915100996-SA3](#) [3G2C7MC224](#) [W2D200-HH04-07](#) [W2S130-AA03-43](#) [S2E250-BB13-22](#) [8856N](#) [A2E170-AF23-11](#) [W4S250-CA20-56](#) [W2S130-AB03-09](#) [5900](#) [C45-A7](#) [TAC12025230MT](#) [8550A](#) [8560N](#) [AD0405HB-G73\(9T\)](#) [CENT-2000-FFTM](#) [CENT-2000-RFTM](#) [W2D200-CA04-52](#) [W2S130-AB25-10](#) [A4E330-AB18-09](#) [W2E250-DB05-52](#) [W4E315-CS22-70](#) [W2E300-CP02-75](#) [S4S250-BA02-20](#) [S2D300-BP02-37](#) [W2S130-AB25-24](#) [W2D250-GA08-08](#) [A2E200-AH38-70](#) [TAC8025115HW](#) [F1238H24BT-FHR](#) [S2D300-CP02-34](#) [4118N/2H8PU-011](#) [RLF100-1114-060](#) [AD3512MB-G5B](#)