



**客戶承認書**  
**SPECIFICATION FOR APPROVAL**

CUSTOMER: \_\_\_\_\_

DESCRIPTION: \_\_\_\_\_ DC FAN \_\_\_\_\_

CUSTOMER P/N: \_\_\_\_\_ REV: \_\_\_\_\_

DELTA MODEL: \_\_\_\_\_ ASB02512VHA-A76N \_\_\_\_\_ REV: \_\_\_\_\_ 01 \_\_\_\_\_

SAMPLE ISSUE DATE: \_\_\_\_\_ 12/08/2016 \_\_\_\_\_

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  
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Customer:

Description: DC FAN

Customer P/N: REV:

Delta Model NO.: ASB02512VHA-A76N Delta Safety Model No.:ASB02512VHA-A

Sample Rev: 01 Issue NO:

Sample Issue Date: DEC-08-2016 Quantity:

1. SCOPE:

THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THE DC BRUSHLESS AXIAL FLOW FAN.

2. CHARACTERS:

ITEM	DESCRIPTION
RATED VOLTAGE	12 VDC
OPERATION VOLTAGE	4.75 - 13.8 VDC
INPUT CURRENT	0.05 (MAX. 0.12) A (SAFETY CURRENT 0.12A)
INPUT POWER	0.60 (MAX. 1.44) W
SPEED	13000±20% R.P.M.
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	0.095 (MIN. 0.076 ) M <sup>3</sup> /MIN. 3.35 (MIN. 2.68) CFM
MAX. AIR PRESSURE (AT ZERO AIRFLOW)	5.43 (MIN. 3.48 ) mmH <sub>2</sub> O 0.214 (MIN. 0.137 ) inchH <sub>2</sub> O
ACOUSTICAL NOISE	27.0 (MAX. 32.0) dB-A (Test conditions: 12.0V, Distance 1m)
	MAX. 25.0 dB-A (Test conditions: 5.0V, Distance 10cm)
INSULATION TYPE	UL: CLASS A

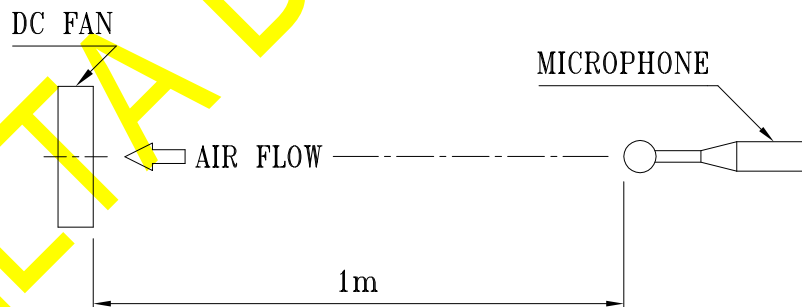
(continued)

PART NO:

DELTA MODEL: ASB02512VHA-A76N

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)
LIFE EXPECTANCE (AT LABEL VOLTAGE)	AT 12.0V	30,000 HOURS CONTINUOUS OPERATION AT 40 °C WITH 15 ~ 65 %RH.
	AT 5.7V	30,000 HOURS CONTINUOUS OPERATION AT 55 °C WITH 15 ~ 65 %RH.
ROTATION		CLOCKWISE VIEW FROM NAME PLATE SIDE

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



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

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PART NO:  
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DELTA MODEL: ASB02512VHA-A76N  
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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 ----- SLEEVE BEARING
- 3-5. WEIGHT ----- 6.0 GRAMS(REF.)

4. ENVIRONMENTAL:

- 4-1. OPERATING TEMPERATURE ----- -10 TO +75 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.

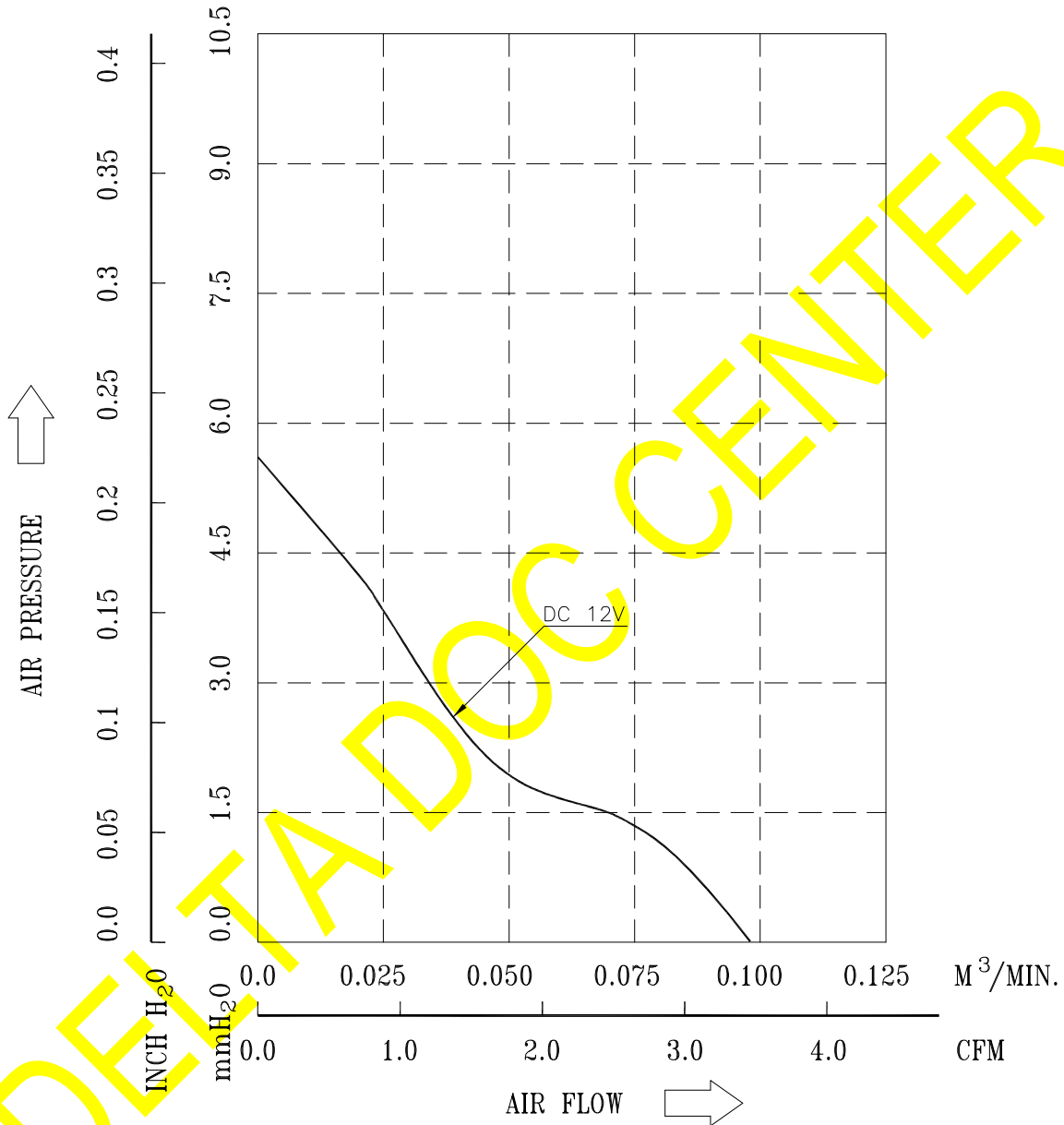
7. PRODUCTION LOCATION

- 7-1. PRODUCTS WILL BE PRODUCED AT WUJIANG CITY OF CHINA:  
DELTA ELECTRONICS COMPONENTS (WUJIANG) LTD

PART NO:

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8. P & Q CURVE:



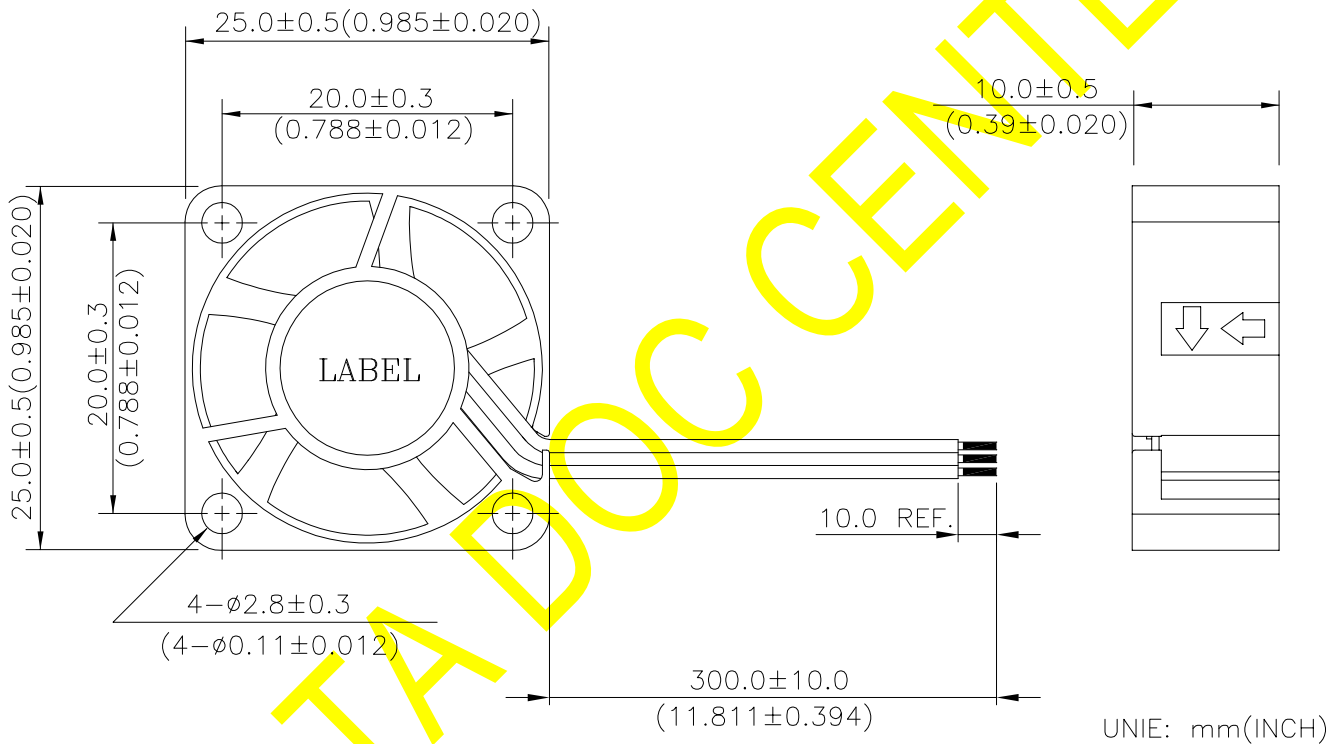
\* TEST CONDITION: INPUT VOLTAGE ----- OPERATION VOLTAGE  
TEMPERATURE ----- ROOM TEMPERATURE  
HUMIDITY ----- 65%RH

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PART NO:  
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DELTA MODEL: ASB02512VHA-A76N  
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9. DIMENSION DRAWING:

LABEL:



NOTES:

1. LEAD WIRE UL10368 #28  
RED WIRE ----- (+)  
BLACK WIRE ----- (-)  
BLUE WIRE ----- (R00)
2. THIS PRODUCT IS ROHS COMPLIANT



## ***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 09CA32864

July 20, 2009

REPORT

ON

COMPONENT - FANS, ELECTRIC

Delta Electronics Inc.  
Taoyuan Hsien, Taiwan

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## DESCRIPTION

## PRODUCT COVERED:

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

USR indicates investigation to the Standard for Electric Fans, UL 507.

CNR indicates investigation to the Canadian Standard for Fans and Ventilators, CSA C22.2 No. 113-M1984 & T.I.L. (Technical Information Letter) No. G-37C.

## ELECTRICAL RATINGS:

Model Nos.	Volts, DC	Amperes, A
TDA1548AG(Y)	48	2.22
TDA1748AG(Y)	48	2.22
AFB1248DHE-6D21(Y)	48	0.21
ASB02512VHA-A(Y)	12	0.12
ASB02512HHA-A(Y)	12	0.10
FFC0412DN-D(Y)	12	0.75
FFB0412UHN-D(Y)	12	0.75
FFB0412EHN-D(Y)	12	0.40

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

# Zertifikat

# Certificate



Zertifikat Nr. *Certificate No.*  
R 50156481

Blatt *Page*  
0011

Ihr Zeichen *Client Reference*  
8608800135

Unser Zeichen *Our Reference*  
ZTW2-HCY- 11016900 004

Ausstellungsdatum  
21.07.2009

*Date of Issue*  
(day/mo/yr)

**Genehmigungsinhaber *License Holder***

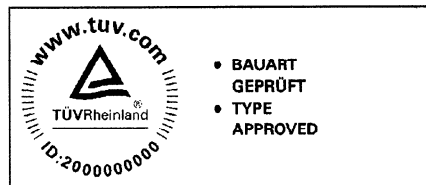
Delta Electronics, Inc.  
252, Shang Ying Road  
Kuei San, Taoyuan Hsien 333  
Taiwan, R.O.C.

**Fertigungsstätte *Manufacturing Plant***

Delta Electronics (Jiang Su), Ltd.  
No. 1688, Jiangxing East Road  
Wujiang Economic Development Zone  
Wujiang City, Jiang Su 215200  
P.R. China

**Prüfzeichen *Test Mark***

**Geprüft nach *Tested acc. to***



IEC 60950-1:2005  
EN 60950-1:2006+A11

**Zertifiziertes Produkt (Geräteidentifikation)**  
***Certified Product (Product Identification)***

**Lizenzentgelte - Einheit**  
***License Fee - Unit***

Ventilator (DC Brushless Fan)

Wie Blatt (As Page) 01  
Ergänzung (Addition)

Bezeichnung (Type Designation)	a) ASB02512VHA-AZ	1
	b) ASB02512HHA-AZ	1
	c) FFB0412UHN-DZ	1
	d) FFC0412DN-DZ	1
	e) FFB0412EHN-DZ	1
	f) AFB1248DHE-6D21Z	1

Z steht für 5 Kennzeichen. Jedes Kennzeichen entspricht einem der folgenden Zeichen. (Z stands for 5 characters. Each character stands for one of the following signs):  
0-9, A-Z, - oder (or) freibleibend (blank) Nur zum Zwecke der Vermarktung (for marketing purpose only)

Fortsetzung auf Blatt (Continued on Page) 12



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ANLAGE (Appendix): 1.3

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.  
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

**Zertifizierungsstelle**

**TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln**  
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com  
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

**Dipl.-Ing. B. Scheirer**