

File E132003
Project 10CA19678

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REPORT

On

COMPONENT - FANS, ELECTRIC

DELTA ELECTRONICS INC
Tao Yuan, Taiwan

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DESCRIPTION

PRODUCT COVERED:

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

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

CNR indicates investigation to the Canadian Standard for Fans and Ventilators, CSA C22.2 No. 113-10 - Eighth Edition.

OBSOLETE MODELS:

Models NS85C57(Y11) and NS85C58(Y11) series, are obsoleted by client's request, and their descriptions contained in this Report are for reference only.

ELECTRICAL RATINGS:

Model Nos.	Volts, DC	Amperes, A
AFB0812SH-SM26 (Y)	12	0.6
GFM0412SS-02 (Y6)	12	1.6
GFC0612SS-03 (Y6)	12	4.5
GFC0612DSA01BZ2 (Y3)	12	4.5
ND75C18 (Y11)	5	0.8
GFM0612HW-00 (Y6)	12	7
NS85C16 (Y11) NS85C05-17E26 (Y5)	5	1
PFR0412HS-01 (Y6)	12	2.2
NS85C32 (Y11)	5	0.5
THD0812HE-00 (Y6)	12	6
ND75C28-19C02 (Y5) ND75C45 (Y11)	5	0.5
NS85C35 (Y11)	5	0.5
NS85C36 (Y11)	5	0.5
NS85C58 (Y11) /NS85C57 (Y11)	5	0.5
ASB1212SJ-00 (Y6)	12	0.42
PFB1224SE-00 (Y6)	24	4.0
PFB1224HE-00 (Y6)		2.0
PFB1224LE-00 (Y6)		0.8

ELECTRICAL RATINGS:

Model Nos.	Volts, DC	Amperes, A
FFB0412VN (Y9)	12	0.83
FFB0412EN (Y9)		2.1
TFC0424EN-02 (Y6)	24	0.4
TFC0424VN-00 (Y6)	24	0.2
NS8CC14 (Y11) /NS8CC15 (Y11)	10	0.5

** Note: The content in "()" is optional. The number after Y represents digits, each digit may be A through Z, 0 through 9, "-" or blank. And the Y is only for locating the number, shall not show in the model name.

MODEL DIFFERENCE:

1. Models GFC0612SS-03(Y6) series are identical to GFC0612DSA01BZ2(Y3) series except for model designation.
2. Model NS85C16(Y11) are identical to Model NS85C05-17E26(Y5) series respectively except for the model designation respectively.
3. Model ND75C28-19C02(Y5) are identical to Model ND75C45(Y11) series respectively except for the model designation respectively.
4. Model NS85C58(Y11) are identical to Model NS85C57(Y11) series except for the model designation respectively.
5. Model PFB1224SE-00(Y6) are identical to Model PFB1224HE-00(Y6) and PFB1224LE-00(Y6) series respectively except for the current and model designation respectively.
6. Model FFB0412VN(Y9) are identical to Model FFB0412EN(Y9) series respectively except for the current and model designation respectively.
7. **Model TFC0424VN-00(Y6) are identical to Model TFC0424EN-02(Y6) series respectively except for the winding turns and model designation respectively.**
8. **Model NS8CC14(Y11) are identical to Model NS8CC15(Y11) series except for mirroring reflect the model designation respectively.**

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

The fans described in this report are provided with a solid-state control circuitry that incorporates a current limiting, current shutdown circuit for locked rotor conditions.

Conditions of Acceptability -

For use only in products where the acceptability of the combination is determined by Underwriters Laboratories Inc.

The following items are limitations to be considered during the end-use investigation:

1. This investigation was established to cover a Class A insulating system for all fans described in this Report.
2. The suitability of these fans when operating under normal or abnormal conditions, within an appliance or enclosure, shall be determined for each application.
3. The suitability of these fans for use when exposed to water, oil, freon, chemicals, X-rays, ultraviolet rays, and the like, has not been determined by this investigation.
4. The suitability of the leads shall be determined for each application with regard to size, temperature limitations, and any other elements that might be required in the end-use product.
5. The thermoplastic enclosure of these fans has not been subjected to the Mold Stress Distortion and Ball Impact (5 ft-lbs) Tests as described in Standard UL 746C during this investigation. These tests shall be considered during the end product evaluation.
6. The solid-state control circuitry provided with the fans was subjected to an Abnormal Operation Locked Rotor Test. If winding temperatures exceeded Normal Temperature Test limits, the locked rotor test was continued for 18 days in accordance with UL 2111, Standard for Overheating Protection for Motors. Suitability of the motors locked rotor protection shall be determined in the end-product investigation.
7. These fans have not been evaluated for use with solid-state speed control devices. Suitability for such usage shall be evaluated in the end-use product.
8. The Temperature Test conducted on the fans described in this Report was done in an average ambient temperature of 25°C. The suitability of these fans when they are intended to operate in a higher ambient temperature shall be evaluated during the end-use investigation.

9. The fans shall be mounted and enclosed in accordance with the frame and enclosure requirements of the end product. Suitable enclosures or guards shall be provided for the fan blades to reduce the risk of injury to persons. The fans may be provided with a finger guard. Suitability of the finger guard shall be determined in the end-use investigation.
10. The minimum flammability rating of the plastic used for the fan frame and impeller of the fans described in this Report is V-0.
11. The minimum flammability rating of the bobbin and other insulating material of the fans described in this Report is V-0 (at minimum 1.6 mm thick).
12. The fans described in this Report have not been evaluated to the requirements for over-surface and through-air spacings described in Section 24 of the Standard for Electric Fans, UL 507 and Clause 9.3 of the Canadian Standard for Fans and Ventilators, CSA C22.2 No. 113-10. These spacings have been waived on the basis that these fans will be connected to an isolated secondary circuit rated maximum 30 V rms (42.2 V peak) or 60 V dc and are subjected to a 500 V dielectric strength test.
13. The minimum flammability rating of the printed wiring boards used in the fans described in this Report is V-0.
14. The fans described in this report may be mounted to an external heatsink, mounting bracket, chassis, shroud, or the like. The above mounted parts have not been evaluated with the fans. Suitability of the above parts shall be evaluated in combination with the fan during the end-product investigation and described in the end-product report.
15. The suitability of the lead terminations and connectors shall be determined during the end-product investigation.
16. Wiring leads are tack soldered to the printed wiring board. Suitability of the lead securement and routing shall be evaluated in the end product.
- *17. The fans are provided with an external lead that is intended for connection to an external speed control (PWM) circuit. This lead was not connected during the component fan investigation. Suitability of the leads shall be determined in the end-product investigation.