DELTA ELECTRO	ELTA NICS, INC.	DC FA	N LIF	E EXPE	RIMEN	IT RE	PORT	
Available for these models with lower speed and same physical				PFB1248EHE	PFB1248GHE			
structure. All model may be followed by ARxx or AFxx series suffixes. This test report applies to PFC120x120x38mm series as				PFB1248SHE PFB1248VHE	PFB1248UHE PFC1248DE-5V77			
the right table				PFB1248VHE PFB1248HHE	FFC1246DE-3 V	TC1246DE-3 V / /		
Representativ	e Test P/N :P	FC1248DE-F	00	ı	I			
Equipment: 60°C Burn-in Room					On/Off Cycles: Every 500 hours			
O L ₁₀ Exp	ated voltage and the temperature of 40°C							
According to	the equation	for Weibul	l distribut	ion,	MTTF ≒	7×L10 =	490,000	hours
And we rely of	on a zero failı	ıre Weibull t	est strategy a	and accelerate	d testing tech	nnique, to de	termine	
the total test t	ime (t) for v	erifying the a	above life est	imation by th	e equations,			
		$t = 1.036 \times$	$MTTF \times [(B_r)]$	$_{;c}) \div n]^{0.91} \div A_F$, and $A_F = 2$	(Ts-Tu)/10		
where, $(B_{r,c})$ is	s Poisson dis			^				
the decimal c	onfidence lev	el of c equal	to 0.90(90%).				
Stress/Elevated Temperature Ts (°C) (Actual Test Temperature)	Unstress Temperature Tu (°C)	Acceleration Factor A _F	Quantity of Test Devices n (pcs)	Poisson Distribution Factor B _{r;c}	Required test time with zero failure t (hours)	Actual test time with zero failure t (hours)	Verified MTTF 40 °C (hours)	$\begin{array}{c} \text{Verified } L_{10} \\ \text{40 } ^{\bullet} \text{C} \\ \text{(hours)} \end{array}$
60								1
UU	40	4.00	56	2.303	6,956	8,360.0	588,939	84,134
Test Progres		4.00	56	2.303	6,956	8,360.0	588,939	84,134
<u> </u>	s:	Date fo	56 or Test on (at least)		6,956	,	Current '	84,134 Fotal Test (hours)
Test Progres	s: t Beginning	Date fo	or Test		,	ntus	Current '	Total Test (hours)
Test Progres Date for Tes 2004/12/3 Herewith , we concludes, if the authors fans' L ₁₀ expects	t Beginning 10:30 PM ould assume as a ctual test time earney and MTTF	Date for Termination 2007/5/10 tright on the base exceed the requirement are greater than	or Test on (at least) 0 3:03 PM is of above test red, it comes on the warrant.	Curing In process Tresult. The suit that those (MTTF:	rent Test Sta	atus	Current Time	Total Test (hours)
Test Progres Date for Tes 2004/12/3 Herewith , we concentrate the area of t	t Beginning 10:30 PM ould assume as a ctual test time earney and MTTF me To Failures, e show the MTT	Date for Termination 2007/5/10 right on the bas exceed the requirance greater that it should be use TF in our life results.	or Test on (at least) 0 3:03 PM is of above test red, it comes on the warrant. ed in a non-repa port, that's beca	In process result. ut that those (MTTF: airable system ause we will not	In process (exceed requested) Temperature for MTTF Estimation (°C)	Termination Acceleration Factor	Current Time (Fotal Test (hours) 0.0 Estimated L ₁₀
Test Progres Date for Tes 2004/12/3 Herewith , we consider the failed Herewith , we consider the failed	t Beginning 10:30 PM ould assume as actual test time earncy and MTTF me To Failures, e show the MTT fans during life	Date for Termination 2007/5/10 right on the bas exceed the requirement are greater than it should be used for in our life regeneration. Moreover, and the should be used for in our life regeneration.	or Test on (at least) 0 3:03 PM is of above test red, it comes of the warrant. ed in a non-reparation of the comport, that's because of the comport of the	In process result. ut that those (MTTF: airable system use we will not Mean Time	In process (exceed requested) Temperature for MTTF Estimation (°C)	Termination Acceleration Factor A _F	Current 7 Time (836 Estimated MTTF (hours)	Fotal Test (hours) 0.0 Estimated L ₁₀ (hours)
Test Progres Date for Tes 2004/12/3 Herewith , we concentrate the area of t	t Beginning 10:30 PM ould assume as a ctual test time energy and MTTF me To Failures, e show the MTT fans during life s, it should be use	Date for Termination 2007/5/10 right on the bas exceed the requirement are greater than it should be used if the first our life reperiment. Mosed in a repairal	or Test on (at least) O 3:03 PM is of above test red, it comes of the warrant. ed in a non-repa port, that's beca ITBF: means M ble system setti	In process result. ut that those (MTTF: mirable system nuse we will not Mean Time nng. Basically,	Temperature for MTTF Estimation (°C) 25	Acceleration Acceleration Factor A _F 11.31	Current Time (836 Estimated MTTF (hours) 1,665,770	Fotal Test (hours) 60.0 Estimated L ₁₀ (hours) 237,967
Test Progres Date for Tes 2004/12/3 Herewith, we consider the failed Between failures	t Beginning 10:30 PM ould assume as a ctual test time energy and MTTF me To Failures, e show the MTT fans during life s, it should be use	Date for Termination 2007/5/10 right on the bas exceed the requirement are greater than it should be used if the first our life reperiment. Mosed in a repairal	or Test on (at least) O 3:03 PM is of above test red, it comes of the warrant. ed in a non-repa port, that's beca ITBF: means M ble system setti	In process result. ut that those (MTTF: mirable system nuse we will not Mean Time nng. Basically,	Temperature for MTTF Estimation (°C) 25 30	Acceleration Factor A _F 11.31 8.00	Estimated MTTF (hours) 1,665,770 1,177,878	Fotal Test (hours) 50.0 Estimated L ₁₀ (hours) 237,967 168,268
Test Progres Date for Tes 2004/12/3 Herewith, we consider the failed Between failures	t Beginning 10:30 PM ould assume as a ctual test time energy and MTTF me To Failures, e show the MTT fans during life s, it should be use	Date for Termination 2007/5/10 right on the bas exceed the requirement are greater than it should be used if the first our life reperiment. Mosed in a repairal	or Test on (at least) O 3:03 PM is of above test red, it comes of the warrant. ed in a non-repa port, that's beca ITBF: means M ble system setti	In process result. ut that those (MTTF: mirable system nuse we will not Mean Time nng. Basically,	Temperature for MTTF Estimation (°C) 25 30 40	Acceleration Factor A _F 11.31 8.00 4.00	Estimated MTTF (hours) 1,665,770 1,177,878 588,939 294,469	Fotal Test (hours) 60.0 Estimated L ₁₀ (hours) 237,967 168,268 84,134 42,067
Test Progres Date for Tes 2004/12/3 Herewith, we consider the fame and the failed Between failures MTBF is equal Tan permission	t Beginning 10:30 PM ould assume as a ctual test time energy and MTTF me To Failures, e show the MTT fans during life s, it should be use to MTTF, the on criteria for	Date for Termination 2007/5/10 right on the bas exceed the requirement are greater than it should be used for in our life representation. Moreover, we same for the measure of the measure	or Test on (at least) 0 3:03 PM is of above test red, it comes of the warrant. ed in a non-repa port, that's beca ITBF: means M ble system setti mula to work of	In process Tresult. That those (MTTF: That are the system and the we will not dean Time and the system and	rent Test Sta In process (exceed requested) Temperature for MTTF Estimation (°C) 25 30 40 50	Acceleration Factor A _F 11.31 8.00 4.00 2.00	Estimated MTTF (hours) 1,665,770 1,177,878 588,939	Fotal Test (hours) 60.0 Estimated L ₁₀ (hours) 237,967 168,268 84,134
Test Progres Date for Tes 2004/12/3 Herewith, we consider the failed Between failures	t Beginning 10:30 PM ould assume as a ctual test time energy and MTTF me To Failures, the show the MTT fans during life so, it should be used to MTTF, the concriteria for the limit is	Date for Termination 2007/5/10 right on the bas exceed the requirance greater than it should be used for in our life representation. Moreover, we same for the measure less than specific the second of the measure less than specific the measure less	or Test on (at least) 0 3:03 PM is of above test red, it comes on the warrant. ed in a non-repa port, that's beca ITBF: means M ble system setti mula to work ement after te ec.(max.).	In process Tresult. That that those (MTTF: Thairable system ause we will not dean Time ang. Basically, out a life data.	rent Test Sta In process (exceed requested) Temperature for MTTF Estimation (°C) 25 30 40 50	Acceleration Factor A _F 11.31 8.00 4.00 2.00	Estimated MTTF (hours) 1,665,770 1,177,878 588,939 294,469	Fotal Test (hours) 60.0 Estimated L ₁₀ (hours) 237,967 168,268 84,134 42,067

Issued Date

2007/7/8 3:30 AM

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Test Result

Reported By

Nan.Yang

Accept

Reject

Approved By

Gx.Xu

3. For noise, the limit is less than spec.(max.). + 3 dB

Time-out for function

test or others (hours)

14349.00

QE File No.

DG04FNL348



DC FAN FUNCTION TEST RECORD FOR LIFE EXPERIMENT

PFB1248EHE PFB1248GHE Available for these models with lower speed and same physical structure. PFB1248SHE PFB1248UHE All model may be followed by ARxx or AFxx series suffixes. This test PFC1248DE-5V77 PFB1248VHE report applies to PFC120x120x38mm series as the right table PFB1248HHE **Required Test Date for Test Date for Test Current Total Test** Sample **Failure** Time (hrs) Beginning **Termination** Size (pcs): (pcs): Time (hrs) 2007/5/10 3:03 PM 2004/12/3 10:30 PM 8360.0 6,956 56 ()✓ In process Representative Test P/N :PFC1248DE-F00 **Current Test Status** Termination In process (exceed requested) Equipment: 60°C Burn-in Room On/Off Cycles: Every 500 hours **Test Data Between Initial Test and Final Test** Initial Test Final Test Initial Test Final Test Initial Test Final Test Deviation Deviation Deviation Sample Current Spec. Current Spec. Speed Spec. Speed Spec. Noise Spec. Noise Spec. No. (%) (RPM) (RPM) (%) (dBA) (dBA) (%) (A) (A) 1.20Max. 1.20Max. 5060-5940 5060-5940 **70.5Max 70.5Max** 68.0 0.5 1.4 67.5 0.7 1 0.91 0.92 5469 5545 2 -2.7 -0.4 67.6 68.1 0.7 0.89 0.87 5502 5478 -1.9 -0.4 67.3 68.2 1.3 3 0.900.88 5445 5425 4 -1.3 2.2 67.8 68.2 0.6 0.87 5425 5543 0.88 68.0 67.9 5 -5.3 3.1 -0.10.91 0.86 5305 5470 6 0.92 0.90 -2.6 5505 -0.7 67.5 68.3 1.2 5464 7 -3.1 2.3 67.4 68.5 1.6 0.88 0.85 5425 5551 0.4 0.2 1.9 67.3 8 0.87 0.87 5369 5471 67.6 9 0.7 1.9 67.5 67.5 0.0 0.90 0.91 5377 5481 2.5 68.2 -1.7 67.6 0.9 10 0.88 0.87 5417 5553 -1.6 0.1 67.7 68.0 0.4 11 0.89 0.88 5439 5442 12 1.7 0.1 67.9 68.4 0.7 0.88 0.90 5489 5493 -0.1 13 2.7 68.0 68.2 0.3 0.96 0.96 5479 5627 3.2 0.7 14 -7.6 67.8 68.3 0.87 5425 0.94 5601 15 -6.7 2.3 67.5 67.9 0.6 0.91 0.85 5469 5595 -2.2 1.5 67.3 68.5 1.8 16 0.92 0.90 5453 5536 17 0.96 0.90 -6.0 1.7 67.8 68.3 0.7 5505 5596 0.0 0.5 67.9 68.4 0.7 18 0.91 0.91 5484 5512 19 -3.8 5555 2.2 67.5 68.5 1.5 0.91 0.88 5437 68.2 20 9.2 1.4 67.8 0.6 0.94 5472 5550 0.86 -0.6 67.6 68.0 0.6 21 0.88 0.87 -0.8 5536 5501 -3.5 1.2 67.8 22 5418 68.7 1.3 0.86 0.83 5483 23 -8.0 6.4 67.5 68.8 1.9 0.89 0.82 5369 5710 3.1 0.3 67.8 68.2 0.6 24 0.86 0.89 5472 5489 25 -5.4 0.6 67.4 68.2 1.2 0.85 0.80 5402 5437 0.5 3.3 26 67.8 68.0 0.3 0.92 0.93 5479 5660 1.9 27 6.4 67.2 67.9 1.0 0.95 5502 0.89 5604 28 -0.8 1.1 68.1 67.8 -0.40.90 0.89 5539 5600 29 -1.9 -2.7 67.5 68.3 1.2 0.85 0.83 5476 5330 30 -1.2 1.8 67.4 68.5 1.6 0.89 0.88 5369 5467 2.5 67.3 68.3 1.5 0.7 31 0.92 0.93 5476 5614 **32** -2.4 4.6 67.8 68.2 0.6 0.92 0.90 5420 5670 1.4 -1.2 67.4 68.1 1.0 33 0.89 5436 0.88 5502 -4.8 1.4 67.8 68.2 0.6 34 0.89 0.85 5369 5446 35 0.92 0.88 -4.6 5428 5479 0.9 67.3 68.3 1.5 Time-out for QE File No. **Issued Date** function test or **Reported By** Approved By others (hours) Nan.Yang **DG04FNL348** 14349.00 2007/7/8 3:30 AM Gx.Xu



DC FAN FUNCTION TEST RECORD FOR LIFE EXPERIMENT

PFB1248EHE PFB1248GHE Available for these models with lower speed and same physical PFB1248SHE PFB1248UHE structure. All model may be followed by ARxx or AFxx series suffixes. PFB1248VHE PFC1248DE-5V77 This test report applies to PFC120x120x38mm series as the right table PFB1248HHE Sample **Required Test Date for Test Date for Test Current Total Test** Failure Size Time (hrs) **Termination Beginning** (pcs): Time (hrs) (pcs): 2004/12/3 10:30 PM 2007/5/10 3:03 PM 6.956 8360.0 56 0 ✓ In process Representative Test P/N :PFC1248DE-F00 **Current Test Status** In process (exceed **Termination** requested) On/Off Cycles: Every 500 hours Equipment: 60°C Burn-in Room **Test Data Between Initial Test and Final Test Initial Test** Final Test **Initial Test** Final Test **Initial Test** Final Test Deviation Deviation Deviation Sample Current Spec. Current Spec. Speed Spec. Speed Spec. Noise Spec. Noise Spec. No. (RPM) (A) (A) (%) (RPM) (%) (dBA) (dBA) (%) 1.20Max. 1.20Max. 5060-5940 5060-5940 **70.5Max 70.5Max** 5.5 -0.1 68.0 68.2 0.3 36 0.87 0.92 5489 5484 -4.5 1.7 67.9 68.3 0.6 37 0.88 0.84 5358 5451 1.0 2.9 67.8 68.4 0.9 38 5577 0.86 0.87 5418 0.8 3.2 67.8 68.2 0.6 39 0.890.9052.76 5444 -0.9 67.9 -0.4 67.6 0.4 40 0.91 0.91 5496 5448 2.2 1.2 67.8 67.9 0.1 41 0.900.915444 5562 42 1.0 68.2 1.2 -1.3 67.4 5520 0.88 0.87 5467 43 -5.7 1.1 67.5 68.0 0.7 0.90 0.85 5471 5533 44 3.6 -0.2 67.8 68.6 1.2 5428 0.86 0.895417 4.0 1.5 67.9 68.4 0.7 45 0.87 0.91 5439 5519 -1.7 4.1 46 67.8 68.2 0.6 0.92 0.90 5428 5649 2.6 -4.1 68.3 1.2 47 67.5 0.88 0.84 5378 5519 48 -2.7 0.7 68.0 67.1 -1.3 0.89 0.87 5369 5406 2.0 1.5 67.9 67.6 0.4 49 0.88 0.905427 5508 50 -1.4 0.9 67.5 68.2 1.0 0.87 0.86 5502 5550 51 -1.9 3.0 67.8 68.5 1.0 0.86 0.84 5376 5537 52 2.0 3.3 67.6 68.0 0.6 0.88 0.90 5353 5529 53 -3.3 3.6 67.0 68.1 1.6 0.90 0.87 5451 5649 -3.0 4.8 68.1 68.3 0.3 54 0.83 5328 5586 0.86 55 1.1 0.8 67.8 68.5 1.0 0.88 0.895447 5492 56 0.1 2.6 67.9 68.0 0.1 0.87 5419 0.87 5562 X-Bar 0.891 0.881 5435.9 5524.2 67.65 68.18 0.032 56.787 0.025 75.296 0.247 0.288 σ Time-out for **QE File No.** function test or **Issued Date** Reported By **Approved By** others (hrs) **DG04FNL348** 14349.00 2007/7/8 3:30 AM Nan. Yang Gx.Xu