SOFASCO INC.
MTTF REPORT

MODEL NO:	DF30300V12			
BEARING	**VOLTAGE(V)**	**CURRENT(A)**	**SPEED(RPM)**	**TEST VOLTAGE(V)**
BALL BEARING	12	0.22	2600	12
TESTED QTY/PCS	**TEST HRS/EA**		**TOTAL HRS**	**TEST TEMPERATURE/℃**
30	1000		30000	70

1.According to the equation of product accumulation failure rate,

◎ 10%=1-e ^ (-λ*t) ◎ t→L_{10} ◎L_{10}=0.10536/λ ◎MTTF=1/λ

◎MTTF/L_{10}=(1/λ)/(0.10536/λ)≒9.5 So we get the result,MTTF≒9.5*L10

2.According to the equation for **Arrhenius Model**

A_F=e^(△H/KT)=e^{(△H/K)x[(1/Tu)-(1/Ts)]}

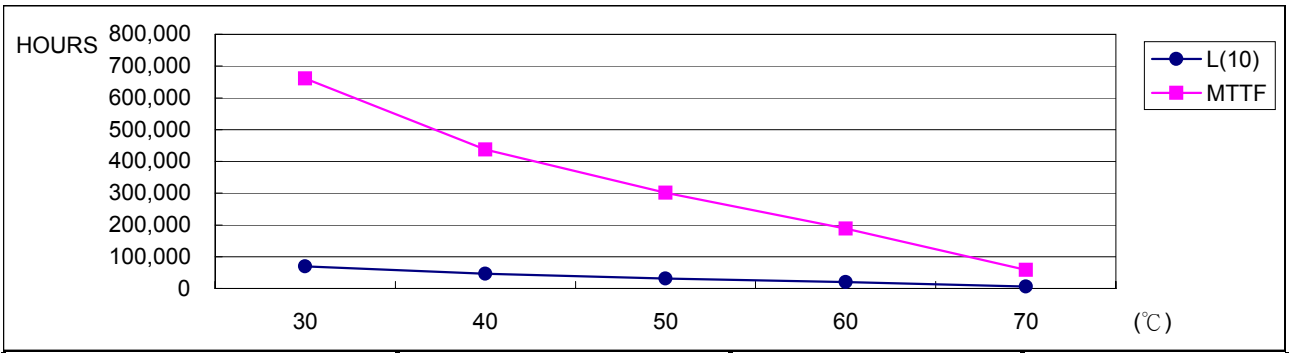
where, **A_F** is acceleration factor, **e** is natural logarithm (2.713), **△H** is activation energy,

K is Boltzmann's constant(8.623x10^{-5} eV/ °K), **T** is absolute temperature(°K),

Tu is unstress temperature(°K), **Ts** is stress temperature(°K), and the confidence level is equal to 0.90(90%)

Herewith , we could assume as right on the basis of above test result,Besides, if the actual test time exceed the required, it comes out that those fans L10 expectancy and MTTF are greater than the warrant. (MTTF : means Mean Time To Failures, it should be used in a non-repairable system setting. Now we show the MTTF in our life report, that's because we will not repair the failed fans during life experiment. MTBF: means Mean Time Between failures, it should be used in a repairable system setting. Basically, MTBF is equal to MTTF , they use same formula to work out a life data.)

Temperature For MTTF Estimation (℃)	Acceleration Factor A_F	Estimated MTTF(hours)	Estimated L_{10}(hours)
30	**11.23**	**660,886**	**69,567**
40	**7.43**	**437,256**	**46,027**
50	**5.12**	**301,312**	**31,717**
60	**3.21**	**188,909**	**19,885**
70	**1**	**58,850**	**6,195**



APPROVED BY	**ISSUED DATE**	**CHECKED BY**	**PREPARED BY**
MICHAEL WANG	**2008.12.04**	**LILY TSAI**	**LUCY KUO**