FT24C32A-Uxx Endurance Qualification Report

1) Background:

FT24C32A-U0H is used as the endurance qualification vehicle for all different versions of FT24C32A-Uxx using FMD proprietary UltraEE technology. The different FT24C32A versions differ only in the low voltage paths, with no changes to the high voltage circuit paths or the memory cells. Therefore although this endurance experiment is done on version U0H, the results are typical for all different versions of FT24C32A-Uxx.

2) Endurance Pass criteria:

77 units each from three different lots fabricated at different times are used for the qualification. The units are randomly picked among those that pass the FT test, with no additional pre-conditioning. Each unit is PAGE cycled at maximum Vcc for up to a number of cycles. A lot is considered to have passed the endurance test if only 0 or 1 out of the 77 units fails the FT test at the end of the cycling. A product is considered to have passed the endurance test if ALL 3 lots pass the endurance test.

3) Experiment setup:

All 77 units from the same lot are cycled together on the same cycling board. A MCU is used for the cycling. Each unit is then re-tested using the FT program at regular cycling intervals.

4) Testing conditions:

Vcc	5.5 V
Write Mode	Page
Temperature	25C
Pass / Fail Criteria	FT program version 32A-1.0

5) Experimental Results (cumulative # of failures / 77 units):

Lot	HM4QF.00	HM7SQ.00	HMC23.00
Fabout	2009.12	2010.01	2010.04
10,000	0 / 77	0 / 77	0 / 77
30,000	0 / 77	0 / 77	0 / 77
100,000	0 / 77	0 / 77	0 / 77
300,000	0 / 77	0 / 77	0 / 77
700,000	0 / 77	0 / 77	0 / 77
1000,000	0 / 77	0 / 77	0 / 77
Result	Passed	Passed	Passed

6) Conclusions:

All three lots pass the endurance requirement at 25C for up to 1000,000 cycles, it is concluded that FT24C32A-Uxx will met the 1000,000 cycles room temperature endurance requirement.

Testing Engineering: Patrick Qiao **Date:** 27/5-10

Approval: