

FREESCALE

Freescall Semiconductor, Inc.
Issuing Division: MICRO-CONTROLLER DIVISION - MCD (JB, JC
, JD, JI, JJ)

PRODUCT BULLETIN **Generic Copy**

15-MAY-2007

Subject: FREESCALE PRODUCT BULLETIN 12665
TITLE:

TSPG MCD MR2A16A TEST AND B/I EXPANSION

EFFECTIVE DATE: 16-May-2007

AFFECTED CHANGE CATEGORIES

- **TEST SITE**
- **SUBCONTRACTOR TEST SITE**

AFFECTED PRODUCT DIVISIONS

- **TRANSPORTATION & STANDARD PRODUCT GROUP - TSPG**
- **MICRO-CONTROLLER DIVISION - MCD (JB, JC, JD, JI, JJ)**
- **WIRELESS & MOBILE SYSTEMS GROUP MISC. - WMSG (VZ)**

ADDITIONAL RELIABILITY DATA: Available

REFERENCE: Contact Sales Office (RA6452)

Contact your local Sales Office.

SAMPLES: Contact Local Sales Office

REFERENCE: Contact Sales Office ()

Contact your local Sales Office.

For any questions concerning this notification:

REFERENCE: Contact Sales Office (TOM LEE)

DISCLAIMER

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FREESCALE CONSIDERS THIS CHANGE APPROVED UNLESS SPECIFIC CONDITIONS OF ACCEPTANCE ARE PROVIDED IN WRITING. TO DO SO, CONTACT YOUR LOCAL SALES OFFICE.

YOU CAN REPLY TO THIS MESSAGE AND IT WILL GO TO RHHF70@freescale.com

GPCN FORMAT: CUSTOMER

DESCRIPTION AND PURPOSE

Freescall is announcing the expansion of final test capacity for MRAM MR2A16A devices to the Freescall Kuala Lumpur, Malaysia (KLM) test facility. Parts tested in KLM will receive burn-in (B/I) at a separate subcontractor facility, Trio-Tech (TTM) in Kuala Lumpur, Malaysia. There is no change to the test or burn-in equipment or software.

All assembly processing will continue to be completed under the current control plan in the KLM assembly site.

Customers could receive product from either the Tempe, Arizona, USA (TMP) or the Kuala Lumpur, Malaysia (KLM) test site.

Separately, the backside trace code is being changed from an 8-digit code to a 5-digit code. The traceability of the lot will not be affected by this change.

QUALIFICATION PLAN

The MRAM MR2A16A (L72W) product correlation followed Freescall's internal correlation requirements for automated test equipment (ATE) test and burn-in. The ATE test correlation included key parametric correlation and bin-to-bin correlation. The burn-in correlation included a parametric shift analysis and a three-lot burn-in correlation. Lots were correlated between sites under the same test and burn-in conditions. The successful correlation is evidence of the production readiness for the KLM test software and hardware and TTM burn-in software and hardware.

ATE Test Correlation:

1. Parametric correlation:

- **Quantity: 30 golden units.**
- **Acceptance criteria: less than 10% variance.**
- 2. Bin-to-bin correlation:**
 - **Quantity: 3,000 units across 3 wafer lots.**
 - **Acceptance criteria: No under-rejection.**

Burn-in Correlation:

- 1. Parametric shift analysis:**
 - **Quantity: 30 golden units.**
 - **Acceptance criteria: less than 10% variance.**
- 2. Three-lot burn-in correlation:**
 - **Quantity: 2,400 units across 3 wafer lots.**
 - **Acceptance criteria: No post-burn-in failures.**

RELIABILITY DATA SUMMARY

ATE Test Correlation:

- 1. Parametric correlation resulted in close distributions at both test sites with less than 4% variance.**
- 2. Bin-to-bin correlation was achieved between the two test sites. There was no under-rejection.**

Burn-in Correlation:

- 1. Parametric shift analysis resulted in close distributions before and after burn-in with less than 4% variance.**
- 2. Three-lot burn-in correlation did not produce any abnormal burn-in failures.**

ELECTRICAL CHARACTERISTIC SUMMARY

There is no change to the electrical performance of the device.

CHANGED PART IDENTIFICATION

The test site identified in the top-side trace code will be modified based on the site the material is processed.

Top-side Trace Code Format = FATWLYYWW

Legend for the trace codes:

F=Fab, A=Assembly, T=Test, WL=Wafer Lot, YY=Year, WW=Work Week

TMP Top-side Trace Code Marking: FAYWLYYWW

KLM Top-side Trace Code Marking: FAQWLYYWW

Legend for the test site code (third character):

Y=TMP, Q=KLM

The back-side trace code will be changed from 8 digits to 5 on future lots regardless of the test site. For some time, product with the old trace code may be shipped.

Old Back-side Trace Code Format: FAWLYYWW

New Back-side Trace Code Format: AWLYW

Legend for the trace codes:

F=Fab, A=Assembly, WL=Wafer Lot, YY=Year, WW=Work Week, YW=Special Year and Work Week Code

AFFECTED DEVICE LIST

PART

MR2A16ATS35C

MR2A16ATS35CR

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