

TEST

PRODUCT

QUALIFICATION

REPORT

TITLE:

Addition of Analog Devices Thailand (TH1) as an Alternate Probe Site for ADBMS6832M Devices

REPORT NUMBER:

PCN 24_0016

REVISION:

A

DATE:

February 22, 2024

PROJECT BACKGROUND

Externalization testing is a transfer activity where parts released at ADI production testing will be carried out to qualify on an additional test site during which volumes of the devices may have sudden increase in requirement, and where capacity is a constraint. This is done to increase reservoir. Products with high system requirement and volume are being prioritized to undergo this transfer activity.

SUMMARY

The ADBMS6832/ADBMS6833 are multicell battery stack monitors that measure series-connected battery cells with a lifetime total measurement error (TME) of less than 2 mV over the full temperature range. ADBMS6832 can measure up to 18 and ADBMS6833 up to 16 series connected cells. The measurement input range of -2 V to +5.5 V makes the ADBMS6832/ADBMS6833 suitable for most battery chemistries and allows the measurement of voltages across bus bars. Provisions are made for bypassing.

This device is tested in ADPG Penang, Malaysia using Teradyne ETS-364 platform.

The ADBMS6832M are planned to be tested in ADI Thailand as an additional probe site using the SPEA Batman test platform.

There is no change to the form, fit, function, quality or reliability of the product.

This report documents the successful completion of the product probe transfer requirements for the release for probing of ADBMS6832M in ADI Thailand.

TEST AND PRODUCT INFORMATION

Device:	ADBMS6832M / ADBMS6833M
Wafer Size:	12 inches
FG Part names:	ADBMS6832MWCCSZ-RL ADBMS6833MWCCSZ-RL
Tester:	SPEA DOT400 BATMAN
Prober:	TSK UF3000

Description and Test Results (Taken from the New Proposed Product Transfer Correlation Qualification Criteria)

Table 1 provides a description of the qualification tests conducted and corresponding test results for ADBMS6832M. All the units have undergone electrical tests on both the sending and receiving sites. Any device that did not meet the electrical qualification requirements without further analysis and data to prove passing, the qualification would be considered failed.

Table 1. Test Product Transfer Qualification Criteria

Generic	GDPW	Wafer Size	Wafer Lot ID	Sending Site	Receiving Site	% Mean Shift Criteria =< 5	Sigma Spread Criteria =< 1.3
ADBMS6832M	4630	12"	7ADY21058.22D7	ADPG	TH1	PASSED	PASSED

Table 2, shows the correlation activities performed demonstrate that the SPEA DOT400 BATMAN platform shows comparable results and is deemed to release to production for probing.

Table 2. Parameter Matching Result

Device	Sending Site (ADPG)	Receiving Site (ADGT)
Tester	ETS364B (C4T)	SPEA DOT400 BATMAN
Total Parameters	2136	2522

The ADBMS6832M was qualified by running a qualification with full wafer probed both in ADPG and TH1. Data between sites were analyzed as summarized in Table 1. A passing result was recorded when the yield from receiving site met or exceeded yield from sending site as summarized in Table 3. Succeeding lots with increased quantity will be closely monitored once the device has started production run at TH1.

Table 3. Test Product Transfer Qualification Lot Run

Generic	GDPW	Wafer Size	Wafer Lot ID	Sending Site Yield (ADPG)	Receiving Site Yield (TH1)	Overall Results
ADBMS6832M	4630	12"	7ADY21058.22D7	98.14%	96.13%	PASSED

ADBMS6832M was qualified by running a 1 full wafer validation lot in TH1 and was compared to ADPG validation lot run. Data between TH1 and ADPG lot performance were analyzed and summarized in Table 4.

Table 4. Validation Lot Run

Generic	Fab lot Number	Lot Size	Test Site	Yield comparison between and ADPG and TH1
ADBMS6832M	7ADY21057.25	4630	ADPG	Matched
		4630	TH1	

Table 5. GR&R Result

Generic	Platform	MSA Date	Overall Results
ADBMS6832M	SPEA DOT400 BATMAN	January 2024	Passed

Approvals

TRB # 67208
 Technical Review Board

Additional Information

Homepage: <http://www.analog.com>
 Datasheet: [ADBMS6832M Datasheet and Product Info | Analog Devices](#)
[ADBMS6832/ADBMS6833 \(Rev.SpB\) \(analog.com\)](#)
 Customer Service: http://www.analog.com/en/content/technical_support_page/fca.html