



INITIAL PRODUCT/PROCESS CHANGE NOTIFICATION #20346

Generic Copy

Issue Date: 21-Dec-2013

TITLE: Installation of back grind production line in OSPI Carmona for products that get wafer probe and assembly operations in OSPI Carmona

PROPOSED FIRST SHIP DATE: 01-Jul-2014

AFFECTED CHANGE CATEGORY(S): Installation back grind capacity in OSPI

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:

Contact your local ON Semiconductor Sales Office or <boris.bastien@onsemi.com>

NOTIFICATION TYPE:

Initial Product/Process Change Notification (IPCEN)

First change notification sent to customers. IPCENs are issued at least 120 days prior to implementation of the change. An IPCEN is advance notification about an upcoming change and contains general information regarding the change details and devices affected. It also contains the preliminary reliability qualification plan.

The completed qualification and characterization data will be included in the Final Product/Process Change Notification (FPCEN).

This IPCEN notification will be followed by a Final Product/Process Change Notification (FPCEN) at least 90 days prior to implementation of the change.

DESCRIPTION AND PURPOSE:

Products that currently get wafer probing and assembly in OSPI Carmona are shipped to a subcontractor for back grinding in between probing and assembly.

By installing the back grind capacity in OSPI we will reduce the cycle time, create extra capacity for back grinding and improve the quality by eliminating the non-added value shipping steps.



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QUALIFICATION PLAN:

There will be a standard full package qualification on 2 products (min and max die size) to compare the reliability of the current and new back grind machine/location.

ACCELERATED ENVIRONMENT STRESS TESTS										
Test #	Test	Reference	Test Conditions	Electrical Test Requirements	Sample Size per lot	Accept Criteria	# of Qual Lots	Total Parts Required for Qual Lots	# of Cntrl Lots	Total Parts Required for Control Lot
A1	Moisture Preconditioning (PC)	J-STD-020 & JESD22-A113	Moisture Soak (MSL = 3) Solder Reflow (3x @ 260°C)	Test @ room	231	0	3	693	1	154
A0	Delamination check (SAT)	J-STD-020	Acoustic Microscopy	N.A.	ALL	0	3	ALL	1	ALL
A3 (alt)	HAST Unbiased (UHST)	JESD22-A110	130°C/ 85%RH for 96 hrs	Test @ room	77	0	3	231	1	77
A4	Preconditioning Temperature Cycling (TC)	JESD22-A104	-55°C to 125°C for 100 cycles	Test @ hot	77	0	3	231	1	77
A4	Temperature Cycling (TC)	JESD22-A104	-65°C to 150°C for 500 cycles	Test @ hot	77	0	3	231	1	77
A2	HAST Biased (HST)	JESD22- A110	130°C to 85°C for 96 hrs	Test @ room	77	0	3	231	1	77
B1	High Temperature Operating Life (HTOL)	JESD22-A108	150°C for 1000 hrs	Test @ room, Test @ hot, Test@ cold	77	0	3	231	1	77
PACKAGE ASSEMBLY INTEGRITY TESTS										
Test #	Test	Reference	Test Conditions	Electrical Test Requirements	Sample Size per lot	Accept Criteria	# of Qual Lots	Total Parts Required for Qual Lots	# of Cntrl Lots	Total Parts Required for Control Lot
	Internal Visual	Mil-Std-883D method 2010.		N.A.	10		3	30	1	10

During the process qualification the following will be checked

Input Variable	Output Variables	Accept Criteria	Materials And Sample Size
<ul style="list-style-type: none"> Z1 Spindle (RPM) Z2 Spindle (RPM) Feed Speed Incoming Facilities supply 	Broken Wafer	0 broken wafer	<ul style="list-style-type: none"> 6in Wafers from FAB 2 (3 each per device) 8in Wafers from FAB 10 (25 wafers) Wafer with Polyimide (25 wafers) Z1 Wheel (40/60) min of 1 wheel Z2 Wheel (6000 grit) min of 1 wheel
	Chipped edge wafer	0 chipped edge	
	Scratch	0 scratch	
	Roughness measurement	0.30um Max	
	Wafer Thickness accuracy and precision (GRR)	Thickness +/- 12um SL (CPK >1.67) (% GRR <10%)	
Wafer TTV accuracy and precision (GRR)	10um Max (CPK >1.67) (% GRR <10%)	30 readings for accuracy; min of 50 readings for Precision	



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List of affected General Parts:

SpecDb devices (output)	OPN
0C383-003	NCV78663DQ0G
0C383-003	NCV78663DQ0R2G
0C501-002	NCV70501DW002G
0C501-002	NCV70501DW002R2G
0C521-009	SCV70521DQ005R2G
0C521-009	SCV70521DQ005G
0C522-007	NCV70522DQ004R2G
0C522-007	NCV70522DQ004G
0C615-003	NCV7420D23R2G
0C615-003	NCV7420D23G
0C616-003	NCV7420D25R2G
0C616-003	NCV7420D25G
0C618-001	NCV7425DW0R2G
0C618-001	NCV7425DW0G
0C619-001	NCV7425DW5R2G
0C619-001	NCV7425DW5G
0C621-003	AMIS30621C6213RG
0C621-003	AMIS30621C6213G
0C621-007	AMIS30621C6217G
0C621-007	AMIS30621C6217RG
0C622-003	AMIS30622C6223RG
0C622-003	AMIS30622C6223G
0C623-010	AMIS30623C6238G
0C623-010	AMIS30623C6238RG
0C624-010	NCV70624DW010R2G
0C624-010	NCV70624DW010G
0C627-001	NCV70627DQ001G
0C627-001	NCV70627DQ001R2G
0CAND-001	NCV7441D20G
0CAND-001	NCV7441D20R2G
0CANH-002	AMIS30660CANH2RG
0CANH-002	AMIS30660CANH2G
0CANI-001	NCV7340D12G
0CANI-001	NCV7340D12R2G
0CANI-002	NCV7340D14R2G
0CANI-002	NCV7340D14G
0CANI-003	NCV7340D13R2G
0CANI-003	NCV7340D13G
0CANM-001	AMIS41682CANM1RG
0CANM-001	AMIS41682CANM1G
0CANN-001	AMIS41683CANN1G
0CANN-001	AMIS41683CANN1RG
0CANV-001	NCV7342D10R2G
0HINT-013	NCP1092DRG
0HINT-013	NCP1092DG
0ICAG-001	AMIS42673ICAG1RG
0ICAG-001	AMIS42673ICAG1G
0ICAH-001	AMIS42670ICAH2G
0ICAH-001	AMIS42670ICAH2RG



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SpecDb devices (output)	OPN
0LINI-001	AMIS30600LINI1G
0LINI-001	AMIS30600LINI1RG
0LINJ-001	NCV7321D10R2G
0LINJ-001	NCV7321D10G
0LINJ-003	NCV7321D11G
0LINJ-003	NCV7321D11R2G
0LINQ-001	NCV7424DB0R2G
0N430-002	NCV7430D20R2G
0RAYB-001	NCV7383DB0R2G
0SBCB-001	NCV7462DQ0G
0SBCB-001	NCV7462DQ0R2G
0SBCC-001	NCV7471DQ5G
0SBCC-001	NCV7471DQ5R2G
0TJAA-006	AMIS42665TJAA6RG
0TJAA-006	AMIS42665TJAA6G
11486-912	FS6377-01G-XTP
11486-912	FS6377-01G-XTD
11486-913	FS6377-01IG-XTD
11486-913	FS6377-01IG-XTP
11640-892	FS6128-04G-XTD
11640-892	FS6128-04G-XTP
13715-805	FS7140-02G-XTP
13715-805	FS7140-02G-XTD
13715-806	FS7140-01G-XTP
13715-806	FS7140-01G-XTD
20800-006	NCS36000DRG
20800-006	NCS36000DG
20806-002	NCS37000DBRG
20806-002	NCS37000DBG
20806-004	NCS37012DBRG
20806-004	NCS37012DBG
21422-002	NCS37010DBG
21422-002	NCS37010DBRG
21453-001	NCN5150DR2G
21453-001	NCN5150DG
21453-004	SCY4001DG
21453-004	SCY4001DR2G