



Process Change Notification

PCN Number: PCN-2016-65

PCN Notification Date: 10/11/2016

FINAL PCN

WM8993ECS/R Assembly and Test Transfer to Amkor Korea

Dear Customer,

This notification is to advise you of the following change(s).

WM8993 assembly and test is being transferred from Unisem Malaysia to Amkor Korea.

If you have any questions, please contact your Sales Representative.

Sincerely,

Quality Systems Administrator
Cirrus Logic Corporate Quality
Phone: +1(512) 851-4000



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Products Affected:

The devices listed on this page are the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

Technical details of this Process / Product Change follow on the next page(s).

Title:	WM8993ECS/R assembly and test transfer to Amkor Korea				
Customer Contact:	Local Field Sales Representative	Phone:	(512) 851-4000	Dept:	Corporate Quality
Proposed 1st Ship Date:	Estimated Q4 2016	Estimated Sample Availability Date:	Now		
Change Type:					
x	Assembly Site	x	Assembly Process	x	Assembly Materials
	Wafer Fab Site		Wafer Fab Process		Wafer Fab Materials
	Wafer Bump Site		Wafer Bump Process	x	Wafer Bump Material
x	Test Site		Test Process		Design
	Electrical Specification		Mechanical Specification		Part Number
x	Packing/Shipping/Labeling	x	Other		
Comments:	POD change (height)				

PCN Details

Description of Change:

- Assembly and test will move from Unisem Malaysia to Amkor Korea
- MSL level will remain the same: MSL 1
- Package quantity in Reel will remain the same : 3.5k
- Marking will change, and logo will be removed, details below
- Minor changes in Package Outline Diagram (POD)
 - These will have no significant impact on footprint or height.
 - The details can be found in PODs below.
- Key Changes for new Site:

	CURRENT	NEW
Assembly Location	Unisem Malaysia	Amkor K4
Test Location	Unisem Malaysia	Amkor K3
Package Size	3.640 x 3.540 x 0.7 (refer to POD below)	3.550 x 3.650 x 0.546 (refer to POD below)
Solder Alloy	SAC305	SAC405
Package Outline Diagram	Package thickness : 0.7mm (POD below)	Package thickness : 0.546mm (POD below)

Package Outline Diagram

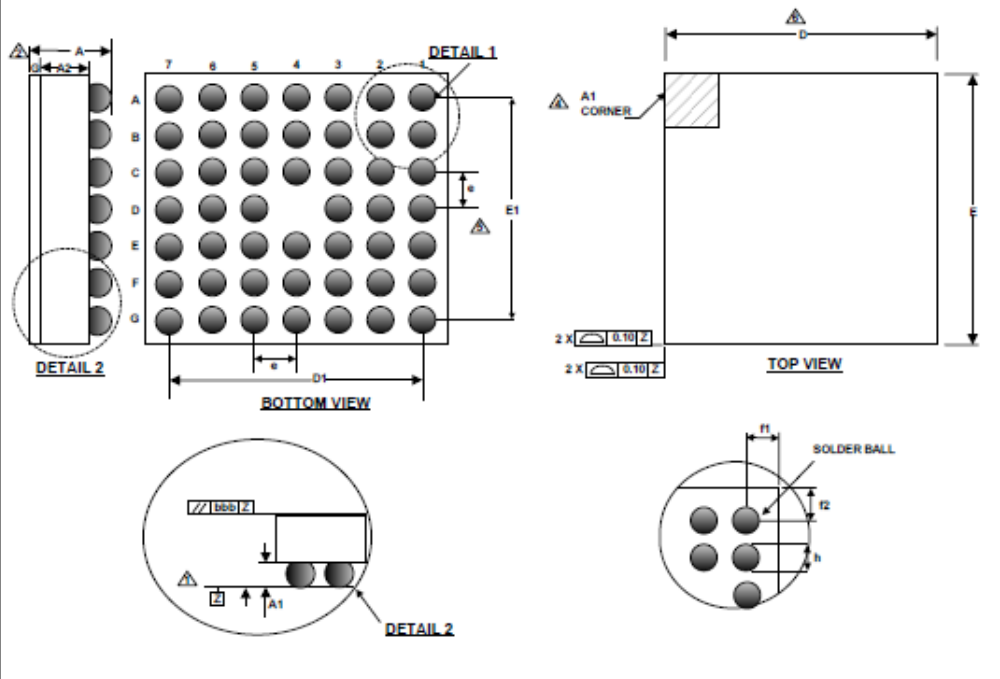
Unisem POD

Notes:

1. Package Bottom View
2. Die size with guard ring but not saw street= 141.73mils x 137.80mils (3600um x 3500um)
3. Estimated die size with saw street = 144.88mils x 140.94mils (3680um x 3580um)
4. Pitch = 0.500mm

*DEVICE: WM8993	*ASSEMBLY SITE: Unisem
*PACKAGE TYPE: 48 Ball W-CSP	
*REVISION: WM8993-CSPRDL-EV1-REV2.01	

B: 48 BALL W-CSP PACKAGE 3.64 x 3.54 x 0.7mm BODY, 0.50 mm BALL PITCH DM060.C

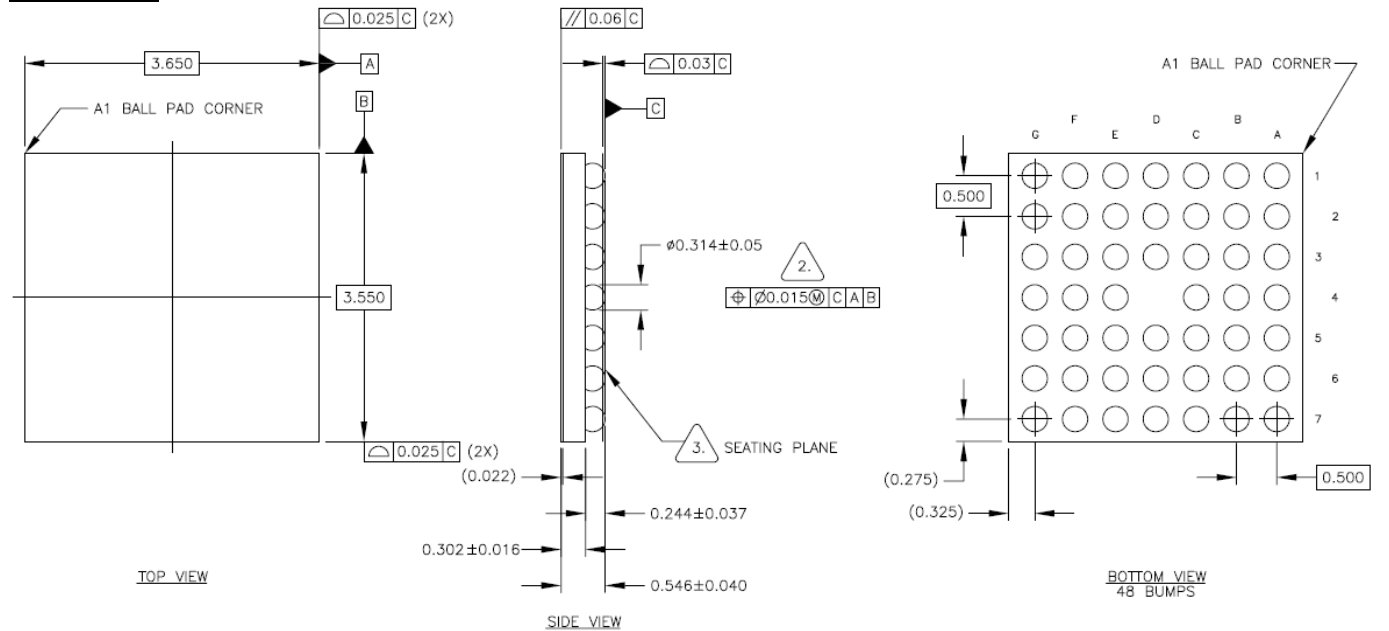


Symbols	Dimensions (mm)			NOTE
	MIN	NOM	MAX	
A	0.615	0.7	0.785	
A1	0.219	0.244	0.269	
A2	0.381	0.388	0.411	
D	3.60	3.64	3.68	
D1		3.00 BSC		
E	3.50	3.54	3.58	
E1		3.00 BSC		
e		0.50 BSC		5
f1	0.3 BSC			
f2	0.25 BSC			
g	0.035	0.070	0.105	
h		0.314 BSC		

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Amkor POD



Reason for Change:

Assembly and test are being consolidated in our volume assembly and test supplier in order to ensure continuity of supply.

Anticipated Impact on Form, Fit, Function, Quality or Reliability:



No change

Product Affected:

Device	Cirrus Logic Part Number
1	WM8993ECS/R

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Changes To Product Identification Resulting From This PCN:	
CURRENT MARKING	NEW MARKING
	

Qualification Data:

<p>This qualification has been specifically developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.</p>			
Qualification Complete	Aug 2016	Status:	PASSED – Qual report is available



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Reliability Report

Report: Project ID 2063-0
 Date: 08-July-2016
 Approved by: Russell McMillan

Purpose	Status
Qualification of WM8993ECS	Qualification successful

WM8993ECS							
Fab:	GlobalFoundries, Fab 5	Assembly:	Unisem (M) Berhad	Rev:	H	Package:	48 Ball W-CSP

Stress Name	Method	Conditions	Lot	Read Point	Results (Fail/Sample)
HTOL (High Temperature Op Life)	JESD22-A108	125°C / Dynamic Bias / VDDmax	1	1000 Hours	0 / 77
ESD HBM (Human Body Model)	JESD22-A114	25°C	1	2000 Volts	0 / 3
ESD CDM (Charged Device Model)	JESD22-C101	25°C	1	500 Volts	0 / 3
Latch-Up Over Voltage (VDD)	JESD78	85°C	1	1.5xVDDmax	0 / 3
Latch-Up Current Injection (I/O)	JESD78	85°C	1	+/- 100 mA	0 / 3



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Reliability Report: Project ID 2063-0

Date: 08-July-2016

WM8993ECS							
Fab:	GlobalFoundries, Fab 5	Assembly:	Amkor K4, Korea	Rev:	H	Package:	48 Ball W-CSP

Stress Name	Method	Conditions	Lot	Read Point	Results (Fail/Sample)
Precondition	JESD22-A113	24HR 125°C Bake 168HR 85°C/85%RH Soak 3 pass 260°C peak reflow	1	Precon MSL1	0 / 154
THB (Temperature Humidity Bias)	JESD22-A101	85°C / 85%RH / VDDmax Post Precondition	1	1000 Hours	0 / 77
Temperature Cycle	JESD22-A104	-85 °C / +150 °C / air to air Post Precondition	1	500 Cycles	0 / 77
HTSL (High Temperature Storage Life)	JESD22-A103	150°C	1	1000 Hours	0 / 77