



Cypress Semiconductor Corporation – An Infineon Technologies Company  
 198 Champion Court, San Jose, CA 95134. Tel: (408) 943-2600

## PRODUCT CHANGE NOTIFICATION

**PCN:** PCN203404

**Date:** August 24, 2020

**Subject:** Qualification of Unimos Shanghai as an Additional Assembly Site for Select 32-Lead TSOP II Package

**To:** FUTURE ELECTRONICS  
 FUTURE ELE  
 pcn.system2@future.ca

**Change Type:** Major

### Description of Change:

Cypress announces the qualification of Unimos Microelectronics Shanghai (No. 9688, Songze Avenue, Qingpu Industrial Park, Shanghai.) as an additional assembly site for select 32-Lead TSOP II package.

The 32-Lead TSOP II package is assembled at Unimos Shanghai using the following Bill of Materials (BOM):

Material	Unimos Shanghai BOM	OSE Taiwan BOM
Mold Compound	CEL9200HF-U/Hitachi	CEL 9200HF/ Hitachi EME-G631/Sumitomo EME-G631SH/Sumitomo
Leadframe	Cu Alloy	Cu Alloy
Leadfinish	Pure Sn	Pure Sn
Die Attach Material	EN-4900F/Hitachi	8340/Henkel CRM-1076/Sumitomo
Bond Wire	0.8 mil CuPdAu wire	1.0 mil Au wire/ 0.8 mil Cu wire/ 0.8 mil CuPdAu wire

### Benefit of Change:

Qualification of alternate manufacturing sites is part of the ongoing flexible manufacturing initiative announced by Cypress. The goal of the flexible manufacturing initiative is to provide the means for Cypress to continue to meet delivery commitments through dynamic, changing market conditions.

**Part Numbers Affected: 14**

See the attached 'Affected Parts List' file for a list of all part numbers affected by this change. Note that any new parts that are introduced after the publication of this PCN will include all changes outlined in this PCN.

**Qualification Status:**

This assembly site has been qualified through a series of tests documented in the Qualification Test Plan QTP#193504. This qualification report can be found as an attachment to this PCN or by visiting [www.cypress.com](http://www.cypress.com) and typing the QTP number in the keyword search window.

**Sample Status:**

Qualification samples may not be built ahead of time for all part numbers affected by this change. Please review the attached 'Affected Parts List' file for a list of affected part numbers with their associated Unimos Shanghai sample ordering part numbers. Samples are available now unless there is an indication that the sample ordering part numbers are subject to lead times. If you require qualification samples, please contact your local Cypress sales representative as soon as possible, preferably within 30 days of the date of this PCN, to place any sample orders.

**Approximate Implementation Date:**

Effective 90 days from the date of this notification or upon customer approval, whichever comes first, all shipments of Commercial, Industrial and Automotive non-PPAP part numbers in the attached file will be assembled at Unimos Shanghai or other approved assembly sites.

**Anticipated Impact:**

Products assembled at the new site are completely compatible with existing products from form, fit, functional, parametric and quality performance perspectives.

Cypress also recommends that customers take this opportunity to review these changes against current application notes, system design considerations and customer environment conditions to assess impact (if any) to their application.

**Method of Identification:**

Cypress maintains traceability of product to wafer level, including wafer fabrication location, through the lot number marked on the package.

**Response Required:**

No response is required.

For additional information regarding this change, contact your local sales representative or contact the PCN Administrator at [pcn\\_adm@cypress.com](mailto:pcn_adm@cypress.com).

Sincerely,

Cypress PCN Administration



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# Cypress Semiconductor Package Qualification Report

**QTP# 193504 VERSION\*\*  
July 2020**

**32L TSOP II (20.95x11.76x1.0mm)  
Pure Sn Leadfinish  
MSL3, 260°C Reflow  
Unimos Microelectronics Shanghai (GU)**

**FOR ANY QUESTIONS ON THIS REPORT, PLEASE CONTACT  
[reliability@cypress.com](mailto:reliability@cypress.com)**

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### PACKAGE QUALIFICATION HISTORY

<b>QTP Number</b>	<b>Description of Qualification Purpose</b>	<b>Date</b>
193504	32L TSOP II (ZW32A) Package Qualification at Unimos Microelectronics Shanghai (GU)	July 2020



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<b>MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION</b>	
Package Designation:	ZW32A
Package Outline, Type, or Name:	32L TSOP II (20.95x11.76x1.0mm)
Mold Compound Name/Manufacturer:	CEL-9200HF-U/Hitachi
Mold Compound Flammability Rating:	V0 UL94
Oxygen Rating Index: >28%	46%
Lead Frame Designation:	Full Metal Paddle
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	Pure Sn
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Saw Process
Die Attach Supplier:	Hitachi
Die Attach Material:	EN-4900
Bond Diagram Designation	002-28451/002-28452
Wire Bond Method:	Thermosonic
Package Cross Section Yes/No:	Yes
Assembly Process Flow:	002-28478
Name/Location of Assembly (prime) facility:	Unimos Microelectronics Shanghai (GU)
MSL Level	3
Reflow Profile	260

<b>ELECTRICAL TEST / FINISH DESCRIPTION</b>	
Test Location:	CML-R

## RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Acoustic Microscopy	J-STD-020 Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30°C, 60% RH, 260°C Reflow)	P
Ball Shear	JESD22-B116 Cpk : 1.33, Ppk : 1.66	P
Bond Pull	MIL-STD-883 – Method 2011, Cpk : 1.33, Ppk : 1.66	P
Constructional Analysis	Criteria: Meet external and internal characteristics of Cypress package	P
Die Shear	MIL-STD-883, Method 2019	P
Dye Penetrant Test	Test to determine the existence and extent of cracks, Criteria: No Package Crack	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	500V JESD22-C101	P
Final Visual	JESD22-B101	P
High Accelerated Saturation Test (HAST)	JEDEC STD 22-A110: 130°C, 85%RH, 5.5V Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30°C, 60% RH, 260°C Reflow)	P
High Accelerated Saturation Test (HAST) - Unbiased	JEDEC STD 22-A110: 130°C, 85%RH Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30°C, 60% RH, 260°C Reflow)	P
High Temperature Operating Life Latent Failure Rate	Dynamic Operating Condition, Vcc Max = 1.95V, 150°C JESD22-A108	P
High Temp Storage	JESD22-A103: 150 C, no bias	P
Internal Visual Inspection	MIL-STD-883-2014	P
Lead Integrity	JESD22-B105, MIL STD 883	P
Physical Dimension	MIL-STD-1835, JESD22-B100	P
Pressure Cooker Test	JESD22-A102, 121°C, 100%RH, 15 PSIG Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30°C, 60% RH, 260°C Reflow)	P
Solderability, Steam Aged	J-STD-002, JESD22-B102 95% solder coverage minimum	P
Temperature Cycle	MIL-STD-883, Method 1010, Condition C, -65°C to 150°C Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30°C, 60% RH, 260°C Reflow)	P
X-Ray	MIL-STD-883 - 2012	P



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## Reliability Test Data

**QTP #: 193504**

<i>Device</i>	<i>Package</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: ACOUSTIC, MSL3</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	COMP	22	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	COMP	22	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	COMP	22	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	COMP	22	0	
<b>STRESS: BALL SHEAR</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	COMP	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	COMP	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	COMP	30	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	COMP	30	0	
<b>STRESS: BOND PULL</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	COMP	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	COMP	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	COMP	30	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	COMP	30	0	
<b>STRESS: CONSTRUCTIONAL ANALYSIS</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	COMP	5	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	COMP	5	0	
<b>STRESS: DIE SHEAR</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	COMP	10	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	COMP	10	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	COMP	10	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	COMP	10	0	
<b>STRESS: DYE PENETRANT TEST</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	COMP	15	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	COMP	15	0	



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## Reliability Test Data

**QTP #: 193504**

<i>Device</i>	<i>Package</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	500	9	0	
<b>STRESS: FINAL VISUAL</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	COMP	1195	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	COMP	800	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	COMP	800	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	COMP	1198	0	
<b>STRESS: HI-ACCEL SATURATION TEST, 130C, 5.5V, 85%RH, PRE COND 192 HR 30C/60%RH, MSL3</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	96	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	96	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	96	30	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	96	30	0	
<b>STRESS: HI-ACCEL SATURATION TEST - UNBIASED, 130C, 85%RH, PRE COND 192 HR 30C/60%RH, MSL3</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	96	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	192	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	96	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	192	29	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	96	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	192	30	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	96	30	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	192	30	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 150C, 1.95V</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	80	117	0	
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	500	117	0	





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## Reliability Test Data

**QTP #: 193504**

<i>Device</i>	<i>Package</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: HIGH TEMP STORAGE</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	500	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	1000	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	500	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	1000	29	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	500	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	1000	30	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	500	30	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	1000	30	0	
<b>STRESS: INTERNAL VISUAL</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	COMP	5	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	COMP	5	0	
<b>STRESS: LEAD INTEGRITY</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	COMP	5	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	COMP	5	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	COMP	5	0	
<b>STRESS: PHYSICAL DIMENSION</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	COMP	10	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	COMP	10	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	COMP	10	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	COMP	10	0	
<b>STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	168	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	288	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	168	28	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	288	28	0	



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## Reliability Test Data

**QTP #: 193504**

<i>Device</i>	<i>Package</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	168	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	288	30	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	168	30	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	288	30	0	
<b>STRESS: SOLDERABILITY TEST</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	COMP	3	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	COMP	3	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	COMP	3	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	COMP	3	0	
<b>STRESS: TC COND. C -65C TO 150C, PRE COND 192 HR 30C/60%RH, MSL3</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	500	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	1000	29	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	500	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	1000	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	500	30	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	1000	30	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	500	30	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	1000	30	0	
<b>STRESS: X-RAY</b>								
CY62148G (7CP172148A)	ZW32	9923020	611940408	GU-Shanghai	COMP	15	0	
CY62148G (7CP172148A)	ZW32	9923020	611940409	GU-Shanghai	COMP	15	0	
CY62148G (7CP172148A)	ZW32	9923020	611940410	GU-Shanghai	COMP	15	0	
CY62148EV30LL (7CP62148F)	ZW32	4910365	611940407	GU-Shanghai	COMP	15	0	



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## Document History Page

Document Title: QTP# 193504: 32L TSOP II (20.95X11.76X1.0MM) PURE SN LEADFINISH, MSL3 260C  
REFLOW, UNIMOS MICROELECTRONICS SHANGHAI (GU)  
Document Number: 002-30604

Rev.	ECN No.	Orig. of Change	Description of Change
**	6895720	JYF	Initial release.



# Material Composition Declaration

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This document is a declaration of the substances within the manufacturer listed item. Note: if the item is an assembly with lower level parts, the declaration encompasses all lower level materials for which the manufacturer has engineering responsibility.

**Adobe Reader version 7.0.5 is required to complete this declaration.**

IPC Web Site for Information on IPC-1752 Standard  
<http://www.ipc.org/IPC-175x>

Form Type \*

Declaration Class \*

## Supplier Information

<b>Company Name *</b>	Company Unique ID	Unique ID Authority	<b>Response Date *</b>	Response Document ID				
<b>Contact Name *</b>	Title - Contact	<b>Phone - Contact *</b>	<b>Email - Contact *</b>					
<b>Authorized Representative *</b>	Title - Representative	<b>Phone - Representative *</b>	<b>Email - Representative *</b>	Supplier Comments or URL for Additional Information				
Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	<b>Weight *</b>	UOM	Unit Type
Alternate Recommendation				Alternate Item Comments				

## Manufacturing Process Information

Terminal Plating / Grid Array Material	Terminal Base Alloy	J-STD-020 MSL Rating	Peak Process Body Temperature	Max Time at Peak Temperature	Number of Reflow Cycles
			C	seconds	

Comments

Save the fields in this form to a file

Import fields from a file into this form

Clear all of the fields on this form

Lock the fields on this form to prevent changes

### RoHS Material Composition Declaration

Declaration Type \*

**RoHS Definition:** Quantity limit of 0.1% by mass (1000 PPM) in homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material for Cadmium

RoHS Declaration \*

Supplier Acceptance \*

**Exemptions:** If the declared item does not contain RoHS restricted substances per the definition above except for defined RoHS exemptions, then select the corresponding response in the RoHS Declaration above and choose all applicable exemptions.

### Declaration Signature

**Instructions:** Complete all of the required fields on all pages of this form. Select the "Accepted" on the Supplier Acceptance drop-down. This will display the signature area. Digitally sign the declaration (if required by the Requester) and click on Submit Form to have the form returned to the Requester.

Supplier Digital Signature

## Homogeneous Material Composition Declaration for Electronic Products

**SubItem Instructions:** The presence of any JIG Level A or B substances must be declared. [1] indicate the subpart in which the substance is located, [2] provide a description of the homogeneous material [3], enter the weight of the homogeneous material.

**Substance Instructions:** [A] select the Level (JIG A, JIG B, Requester or Supplier) [B] select the substance category (JIG or Requester) or enter a value (Supplier). [C] select the substance (JIG) or enter the substance and CAS (Other). [D] select a RoHS exemption, if applicable [E] enter the weight of the substance or the PPM concentration [F] Optionally enter the positive (+) and negative (-) tolerance in percent (Note: percent tolerance values are expected to cover a 3 sigma range of distribution unless otherwise noted).

**Line Functions:** +I Inserts a New Item /SubItem +M Inserts a new Material +C Inserts a new Substance Category +S Inserts a new Substance - Deletes the element line

Item/SubItem Name	Homogeneous Material	Weight	Unit of Measure	Level	Substance Category	Substance	CAS	Exempt	Weight	Unit of Measure	Tolerance		PPM
											-	+	

\* Required Field

CAS Registry Number(R) is a Registered Trademark of the American Chemical Society

Form enabled by Adobe

