

## Product Change Notice (PCN)

**Subject:** Alternate bond wire material and assembly facility of the listed Renesas nSOIC packaged products

**Publication Date:** 10/6/2022

**Effective Date:** 1/4/2023

### Revision Description:

Initial Release

### Description of Change:

Alternate assembly facility of the listed Renesas nSOIC packaged products

- *Advanced Semiconductor Engineering, Chung Li, Taiwan ROC (ASECL)*
- *Greatek Electronics Inc., Taiwan R.O.C (Greatek)*

### List of changes :

- Adding ASECL and Greatek as alternate assembly site,
- Wire material change from Gold to Copper
- Standardize Moisture Sensitivity Level from MSL1, 3 to MSL3.

This notice is to inform you that Renesas will begin using Copper Wire bond material at ASECL and Greatek facilities for the Listed Renesas narrow Small Outlined Integrated Circuit (nSOIC) products. The Copper bond wire is an alternate to the gold bond wire currently used for assembly of the listed products.

### Reason for Change:

ASECL and Greatek are existing assembly supplier for Renesas. Adding assembly site will expand current capabilities and capacities to optimize Renesas's ability to meet customer's delivery requirements. Both ASECL and Greatek facilities are ISO9001:2015 and IATF 16949:2016 certified. ASECL and Greatek are existing assembly supplier for high volume assembly of nSOIC packaged products with both gold and copper bond wire material.

### Impact on fit, form, function, quality & reliability:

The assembly qualification plan is designed using JEDEC and other applicable industry standards to confirm there is no impact to form, fit, function or interchangeability of the product. A summary of the qualification plan and results are included for reference. Please refer Appendix B. The remainder of the manufacturing operations (wafer fabrication, package level electrical test, etc) will continue to be processed to previously established manufacturing flow.

Products assembled with Copper bond wire are classified as Moisture Sensitivity Level Three

(MSL3). As such, the affected devices will be packed, labeled and shipped as MSL3 upon implementation of the changes outlined in the PCN.

**Product Identification:**

Product affected by this change is identifiable via Renesas’s internal traceability system. In addition, product assembled at ASECL and Greatek may also be identified by the assembly site code (country of assembly) when marked on the devices. The site code for product assembled at

#	Assembly Site	Site Code	Remarks
1	ASECL	W	For Copper wire products
2	Greatek	K	For Copper wire products

Customers may expect to receive product assembled using gold bond wire from the current facilities or copper bond wire from ASECL and Greatek facilities until the existing inventory is depleted or earlier with customer’s approval.

**Qualification status:** Completed, see attached  
**Sample availability:** 12/15/2022  
**Device material declaration:** Available upon request

Note : Sample is available December 15, 2022 onwards, and subject to availability. Customer may expect 1 – 2 months for sample replenishment.

*Questions or requests pertaining to this change notice, including additional data or samples, must be sent to Renesas within 30 days of the publication date.*

For additional information regarding this notice, please contact your regional change coordinator (below)			
Americas: <a href="mailto:PCN-US@RENEASAS.COM">PCN-US@RENEASAS.COM</a>	Europe: <a href="mailto:PCN-EU@RENEASAS.COM">PCN-EU@RENEASAS.COM</a>	Japan: <a href="mailto:PCN-JP@RENEASAS.COM">PCN-JP@RENEASAS.COM</a>	Asia Pac: <a href="mailto:PCN-APAC@RENEASAS.COM">PCN-APAC@RENEASAS.COM</a>

Appendix A : Affected Products

**Table 1** – Adding ASECL and Greatek as alternate assembly site , wire material change from Gold to Copper and Moisture Sensitivity Level change from MSL1 to MSL3.

**Affected Product List (MSL 1 change to MSL 3)**

ISL84544IBZ
ISL84544IBZ-T

**Table 2** – Adding ASECL and Greatek as alternate assembly site , wire material change from Gold to Copper and Moisture Sensitivity Level change remains as MSL3 (No change)

**Affected Product List (Remains as MSL 3)**

ICL3232CBNZ	ICL3232ECBNZ-TS2800	ICL3232IBNZ-T
ICL3232CBNZ-T	ICL3232EIBNZ	ICL3232IBNZ-T7A
ICL3232ECBNZ	ICL3232EIBNZ-T	
ICL3232ECBNZ-T	ICL3232IBNZ	

Appendix B - Qualification Results (see attached)

Test Description	Condition	ICL3232ECBNZ 16 Leads, nSOIC Package Greatek assembled	ICL3232CBNZ 16 Leads, nSOIC Package Greatek assembled
Moisture Sensitivity Level	Level 3	N=88 Acc = 0 L3 Pb-Free	N=88 Acc = 0 L3 Pb-Free
Biased Highly Accelerated Stress Test (bHAST) +130°C ; 85% RH	96 hours	N=240 Acc = 0 L3 Pb-Free	N=240 Acc = 0 L3 Pb-Free
Unbiased Highly Accelerated Stress Test (uHAST) +130°C ; 85% RH	96 hours	N=240 Acc = 0 L3 Pb-Free	N=240 Acc = 0 L3 Pb-Free
Temperature Cycle (TCT) -65°C / +150°C	200 cycles	N=240 Acc = 0 L3 Pb-Free	N=240 Acc = 0 L3 Pb-Free
	500 cycles	N=240 Acc = 0 L3 Pb-Free	N=240 Acc = 0 L3 Pb-Free
Hot Temperature Storage (HTS) +150°C	500 hours	N=240 Acc = 0 Pb-Free	N=240 Acc = 0 Pb-Free
	1000 hours	N=240 Acc = 0 Pb-Free	N=240 Acc = 0 Pb-Free

 Pass Qualification