Product Change Notice (PCN)

Subject: Alternate bond wire material of the listed Renesas DFN and QFN packaged products
Publication Date: 1/17/2024
Effective Date: 4/17/2024

Revision Description:
Initial Release

Description of Change:

1. Alternate bond wire material from Gold to Copper wire
2. Standardize Moisture Sensitivity Level from MSL 1, 2, 3 to MSL3.

Renesas Part #	Wire Material / MSL	Wire material / MSL	Remarks
Product as listed in Appendix A	CAS / Gold Wire / MSL 1, 2, 3	CAS / Copper Wire / MSL 3	*Copper wire was qualified and mass production at CAS. *Wire change from Gold to Copper *Standardize MSL from MSL1,2,3 to MSL3

This notice is to inform you that Renesas will begin using Copper wire bond material at the Carsem, Malaysia (CAS) facility for the listed Renesas DFN and QFN packaged products. The Copper bond wire is an alternate to the Gold bond wire currently used for assembly of the listed products. CAS is existing assembly supplier for high volume assembly of DFN and QFN packaged products using both Gold and Copper bond wire material.

Reason for Change:
Copper wire is commonly used in Integrated Circuit (IC) with :

1. Superior thermal and electrical conductivity
2. Mechanical stability
3. Good reliability performance at elevated temperature.

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 result is 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 MSL 3 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 CAS 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	CAS	X	For Copper wire products

Customers may expect to receive product assembled using gold bond wire from the current facility or copper bond wire from CAS facility until the existing inventory is depleted or earlier with customer's approval.

Qualification status: Completed, See attached
Sample availability: 2/18/2024
Device material declaration: Available upon request

Sample is available February 18, 2024 onwards, and subject to availability. Customer may expect 1 – 2 months for sample replenishment.

Note:

1. *Acknowledgement must be received by Renesas within 30 days or Renesas will consider the change as approved.*
2. *If timely acknowledgement is provided by Customer, then Customer shall have 90 days from the date of receipt of this PCN to make any objections to this PCN. If Customer fails to make objections to this PCN within 90 days of the receipt of the PCN then Renesas will consider the PCN changes as approved.*
3. *If customer cannot accept the PCN then customer must provide Renesas with a last time buy demand and purchase order.*

For additional information regarding this notice, please contact your regional change coordinator (below)			
Americas: PCN-US@RENESAS.COM	Europe: PCN-EU@RENESAS.COM	Japan: PCN-JP@RENESAS.COM	Asia Pac: PCN-APAC@RENESAS.COM

Appendix A : -

Wire material change from Gold to Copper and Standardize Moisture Sensitivity Level from MSL1, 2, 3 to MSL 3.

Affected Product List

ISL8009AIRZ-T	HIP2210FRTZ	ISL6228HRTZ-TR5453	ISL8126XAIRTZ-T
ISL8009AIRZ-TR5589	HIP2210FRTZ-T	ISL6228HRTZ-TS2568	ISL8126XAIRTZ-TR5453
ISL8013AIRZ	HIP2211FR8Z	ISL6265AHRTZ	ISL8500IRZ-TR5453
ISL8013AIRZ-T	HIP2211FR8Z-T	ISL6265AHRTZ-T	ISL9440BIRZ-TR5453
ISL8013IRZ	HIP2211FRTZ	ISL6420BIRZ-TKR5453	ISL9492ERZ
ISL8013IRZS2715	HIP2211FRTZ-T	ISL6540AIRZ-TR5453	ISL9492ERZ-T
ISL8088IRZ	ISL28023FR12Z-TS2490	ISL8120IRZ	ISL9492ERZ-TS2765
ISL8088IRZ-TK	ISL6208BCRZ-TR5625	ISL8120IRZ-T	ISL9519HRTZ-TS2568
ISL85403FRZ	ISL6208CRZ	ISL8120IRZ-TK	< Blank >
ISL85403FRZ-T	ISL6208CRZ-T	ISL8120IRZ-TR5568	< Blank >
ISL85403FRZ-TK	ISL6208IRZ	ISL8120IRZR5568	< Blank >
ISL85403FRZ-TS2789	ISL6208IRZ-T	ISL8120XIRTZ-T	< Blank >

Appendix B : Qualification result

Test Description	Condition	ISL6265CHRTZ 48 Lead, 6.0mm x 6.0mm TQFN Package	ISL6341CRZ 10 Lead, 3.0mm x 3.0mm TDFN Package
Moisture Sensitivity Classification	Level 3	N = 600 Acc = 0 L3 Pb Free	N = 1319 Acc = 0 L3 Pb Free
Biased Highly Accelerated Stress Test (bHAST) +130°C ; 85% RH	96 hours	N = 78 Acc = 0 L3 Pb Free	▨
Unbiased Highly Accelerated Stress Test (uHAST) +130°C ; 85% RH	96 hours	N=225 Acc = 0 L3 Pb-Free	N=492 Acc = 0 L3 Pb-Free
Hot Temperature Stroage (HTS) +150°C	1000 hours	N=225 Acc = 0	N=357 Acc = 0
Temperature Cycle (TCT) -65°C / +150°C	500 cycles	N=225 Acc = 0 L3 Pb-Free	N=494 Acc = 0 L3 Pb-Free

🟩 Qualified by Extension

▨ Not Applicable (NA)