RENESAS

Product Change Notice (PCN)

Subject: Add Alternate Assembly Locations on VFQFPN and LGA Packages
Publication Date: 10/17/2022
Effective Date: 1/16/2023

Revision Description:
Initial Release

Description of Change:
Renesas is adding alternate assembly locations for select VFQFPN and LGA packages. Refer to below table for the current and the alternate assembly locations and its material sets by package type.

There will be changes in the material sets at the alternate assembly locations.

No change in the moisture sensitive level as a result of this change.

	Existing Assembly				Alternate Assembly
VFQFPN-20 (NLG20)	ASEK, Taiwan	CRSS, Malaysia	UTL, Thailand	Unisem, Malaysia	GEI, Taiwan
Die Attach Epoxy	EN4900F	QMI519	8200T	EN4900GC	EN4900GC
Bonding Wire	Copper wire	Copper wire	Copper wire	Copper wire	Copper wire
Mold Compound	EME-G631H	EME-G770HCD	EME-G770HCD	EME-G770HJ	EME-G700HA

	Existing Assembly			Alternate Assembly	
VFQFPN-40 (NDG40)	ASEK, Taiwan	ASEC, Taiwan	Unisem, Malaysia	UTL, Thailand	GEI, Taiwan
Die Attach Epoxy	EN4900F	EN4900G	EN4900GC	8600	EN4900GC
Bonding Wire	Copper wire	Copper wire	Copper wire	Copper wire	Copper wire
Mold Compound	EME-G631H	EME-G700LA	EME-G770HJ	EME-G770HCD EME-G700LTD (P8000 series)	EME-G700HA

Note: For P8000 series devices, alternate assembly only limit to UTL, Thailand

	Existing Assembly	Alternate Assembly
VFQFPN-12 (NEG12)	ASEC, Taiwan	CRSS, Malaysia
Die Attach Epoxy	ATB-125	HR-5104
Bonding Wire	Copper wire	Copper wire
Mold Compound	EME-G700LA	EME-G770HCD

	Existing Assembly	Alternate Assembly
VFQFPN-20 (NCG20)	ASEC, Taiwan	CRSS, Malaysia
Die Attach Epoxy	EN4900G	EN4900GC
Bonding Wire	Copper Wire	Copper Wire
Mold Compound	EME-G700LA	EME-G770HCD

	Existing Bump	Alternate Bump	Existing Assembly	Alternate Assembly
LGA-32 (LFG32)	ASEK, Taiwan	JCAP, China	ASEC, Taiwan	JSCC, China
Bump	Sn1.8Ag	Sn1.8Ag	Not applicable	Not applicable
Mold Compound			EME-G311A	EME-G311A

Affected Product List: Refer Appendix B.

Reason for Change:
The change is for increased manufacturing capability and business continuity.

Impact on Fit, Form, Function, Quality & Reliability:
The change will have no impact on the form, fit, function, quality, reliability and environmental compliance of the products.

Product Identification:
Assembly lot# with prefix
“U” denote UTL
“GR” denote GEI
“MS” denote CRSS
“JS” denote JSCC

Qualification Status: Completed. Refer Appendix A.
Sample Availability Date: 8 weeks from sample request date
Device Material Declaration: Available on request

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 idt-pcn@lm.renesas.com

Appendix A - Qualification Results

Affected Package: VFQFPN-20
Qual Vehicle: VFQFPN-24
Assembly Material: As shown in page 1
Qual Plan & Results: Tests are in accordance with JEDEC47 recommended tests.

Test Descriptions	Test Method	Test Results (Rej/SS)		
		Lot 1	Lot 2	Lot 3
* Temperature Cycling (-55°C to 125°C, 700 cycles)	JESD22-A104	0/25	0/25	0/25
* HAST - biased (130°C/85% RH, 96 Hrs)	JESD22-A110	0/25	0/25	0/25
High Temperature Storage Bake (150°C, 1000 Hrs)	JESD22-A103	0/25	0/25	0/25
Ball Shear Test	JESD22-B116	0/5	0/5	0/5
Bond Pull Test	MIL-STD-883 (Method 2011)	0/5	0/5	0/5
Physical Dimensions	JESD22-B100	0/30	0/30	0/30
Moisture Sensitivity Level, MSL	J-STD-20 / MSL 1, 260°C	0/25	0/25	-
Solderability Test	MIL-STD-883 (Method 2003)	0/5	0/5	0/5

**Tests were subjected to Preconditioning per JESD22-A113 prior to stress test*

Affected Package: VFQFPN-40
Qual Vehicle: VFQFPN-100
Assembly Material: As shown in page 1
Qual Plan & Results: Tests are in accordance with JEDEC47 recommended tests.
(i)UTL Thailand

Test Descriptions	Test Method	Test Results (Rej/SS)		
		Lot 1	Lot 2	Lot 3
* Temperature Cycling (-55°C to 125°C, 700 cycles)	JESD22-A104	0/25	0/25	0/25
* HAST - biased (110°C/85% RH, 96 Hrs)	JESD22-A110	0/25	0/25	0/25
High Temperature Storage Bake (150°C, 1000 Hrs)	JESD22-A103	0/25	0/25	0/25
Ball Shear Test	JESD22-B116	0/5	0/5	0/5
Bond Pull Test	MIL-STD-883 (Method 2011)	0/5	0/5	0/5
Physical Dimensions	JESD22-B100	0/30	0/30	0/30
Moisture Sensitivity Level, MSL	J-STD-20 / MSL 3, 260°C	0/25	0/25	-
Solderability Test	MIL-STD-883 (Method 2003)	0/5	0/5	0/5

**Tests were subjected to Preconditioning per JESD22-A113 prior to stress test*

(ii)GEI Taiwan

Test Descriptions	Test Method	Test Results (Rej/SS)		
		Lot 1	Lot 2	Lot 3
* Temperature Cycling (-55°C to 125°C, 700 cycles)	JESD22-A104	0/25	0/25	0/25
* HAST - biased (130°C/85% RH, 96 Hrs)	JESD22-A110	0/25	0/25	0/25
High Temperature Storage Bake (150°C, 1000 Hrs)	JESD22-A103	0/25	0/25	0/25
Ball Shear Test	JESD22-B116	0/5	0/5	0/5
Bond Pull Test	MIL-STD-883 (Method 2011)	0/5	0/5	0/5
Physical Dimensions	JESD22-B100	0/30	0/30	0/30
Moisture Sensitivity Level, MSL	J-STD-20 / MSL 3, 260°C	0/25	0/25	-
Solderability Test	MIL-STD-883 (Method 2003)	0/5	0/5	0/5

**Tests were subjected to Preconditioning per JESD22-A113 prior to stress test*

Affected Package: VFQFPN-12
Qual Vehicle: VFQFPN-12
Assembly Material: As shown in page 1
Qual Plan & Results: Tests are in accordance with JEDEC47 recommended tests.

Test Descriptions	Test Method	Test Results (Rej/SS)		
		Lot 1	Lot 2	Lot 3
* Temperature Cycling (-55°C to 125°C, 700 cycles)	JESD22-A104	0/25	0/25	0/25
* HAST - biased (130°C/85% RH, 96 Hrs)	JESD22-A110	0/25	0/25	0/25
High Temperature Storage Bake (150°C, 1000 Hrs)	JESD22-A103	0/25	0/25	0/25
Ball Shear Test	JESD22-B116	0/5	0/5	0/5
Bond Pull Test	MIL-STD-883 (Method 2011)	0/5	0/5	0/5
Physical Dimensions	JESD22-B100	0/30	0/30	0/30
Moisture Sensitivity Level, MSL	J-STD-20 / MSL 1, 260°C	0/25	0/25	-
Solderability Test	MIL-STD-883 (Method 2003)	0/5	0/5	0/5

**Tests were subjected to Preconditioning per JESD22-A113 prior to stress test*

Affected Package: VFQFPN-20
Qual Vehicle: VFQFPN-20
Assembly Material: As shown in page 1
Qual Plan & Results: Tests are in accordance with JEDEC47 recommended tests.

Test Descriptions	Test Method	Test Results (Rej/SS)		
		Lot 1	Lot 2	Lot 3
* Temperature Cycling (-55°C to 125°C, 700 cycles)	JESD22-A104	0/25	0/25	0/25
* HAST - biased (130°C/85% RH, 96 Hrs)	JESD22-A110	0/25	0/25	0/25
High Temperature Storage Bake (150°C, 1000 Hrs)	JESD22-A103	0/25	0/25	0/25
Ball Shear Test	JESD22-B116	0/5	0/5	0/5
Bond Pull Test	MIL-STD-883 (Method 2011)	0/5	0/5	0/5
Physical Dimensions	JESD22-B100	0/30	0/30	0/30
Moisture Sensitivity Level, MSL	J-STD-20 / MSL 1, 260°C	0/25	0/25	-
Solderability Test	MIL-STD-883 (Method 2003)	0/5	0/5	0/5

**Tests were subjected to Preconditioning per JESD22-A113 prior to stress test*

Affected Package: LGA-32
Qual Vehicle: LGA-32
Assembly Material: As shown in page 1
Qual Plan & Results: Tests are in accordance with JEDEC47 recommended tests.

Test Descriptions	Test Method	Test Results (Rej/SS)		
		Lot 1	Lot 2	Lot 3
* Temperature Cycling (-55°C to 125°C, 700 cycles)	JESD22-A104	0/25	0/25	0/25
* HAST - biased (130°C/85% RH, 96 Hrs)	JESD22-A110	0/25	0/25	0/25
High Temperature Storage Bake (150°C, 1000 Hrs)	JESD22-A103	0/25	0/25	0/25
Physical Dimensions	JESD22-B100	0/30	0/30	0/30
Moisture Sensitivity Level, MSL	J-STD-20 / MSL 3, 260°C	0/25	0/25	-
Solderability Test	MIL-STD-883 (Method 2003)	0/5	0/5	0/5

**Tests were subjected to Preconditioning per JESD22-A113 prior to stress test*

Appendix B – Affected Product List

6V31024NLG	9FGL0641CKILF	F1953NCGI8	P8000-12NDGI8
6V31024NLG8	9FGL0641CKILFT	F1975NCGI	P8000-13NDGI
6V41537BNLG	9FGL0651AKILF	F1975NCGI8	P8000-13NDGI8
6V41537BNLG8	9FGL0651AKILFT	F1978NCGK	P8000-14NDGI
6V41537NLG	9FGL0651CKILF	F1978NCGK8	P8000-14NDGI8
6V41537NLG8	9FGL0651CKILFT	F2912NCGI	P9235-0NDGI
6V41539NLG	9SBV0802AKILF	F2912NCGI/W	P9235-0NDGI8
6V41539NLG8	9SBV0802AKILFT	F2912NCGI8	P9235-17NDGI
6V41555BNLG	9Z61106EKILF	F2923NCGI	P9235-17NDGI8
6V41555BNLG8	9Z61106EKILFT	F2923NCGI8	P9235A-0NDGI
6V41555NLG	9ZXL0632EKILF	F2970NCGK	P9235A-0NDGI8
6V41555NLG8	9ZXL0632EKILFT	F2970NCGK8	P9235A-16NDGI
8P34S1106NLGI	9ZXL0652EKILF	F2971NCGK	P9235A-16NDGI8
8P34S1106NLGI8	9ZXL0652EKILFT	F2971NCGK8	P9235A-8NDGI
8V74S4622NLGI	DELL0455NLGI	F2972NEGK	P9235A-8NDGI8
8V74S4622NLGI/W	DELL0455NLGI8	F2972NEGK8	P9235A-B0NDGI
8V74S4622NLGI8	F0452CLFGK	F2976NEGK	P9235A-B0NDGI8
9DBL0455NLGI	F0452CLFGK8	F2976NEGK8	P9235A-R3NDGI
9DBL0455NLGI8	F0453CLFGK	F2977NEGK	P9235A-R3NDGI8
9DBL0643ANDGI	F0453CLFGK8	F2977NEGK8	P9235A-R4NDGI
9DBL0643ANDGI8	F1912NCGI	P8000-11NDGI	P9235A-R4NDGI8
9DBL0653ANDGI	F1912NCGI8	P8000-11NDGI8	
9DBL0653ANDGI8	F1953NCGI	P8000-12NDGI	