

Product Change Notice (PCN)

Subject: Supplier addition of Cu-wire for LQFP products in RH850/F1, R1 and D1 Series

Publication Date: 12/4/2024

Effective Date: 6/1/2025

Revision Description: Initial Release (HPLM-2024-0019)

Revision1 (99 Part Numbers added) Refer to Page 2.

Description of Change:

Renesas will add a Cu-wire supplier for LQFP products in RH850/F1, R1 and D1 Series as follows:

Item	Before Change	After Change
Cu-wire: Supplier Addition	Supplier A	Supplier A and Supplier B

Applicable Assembly Factory

Renesas Electronics Corporation Nishiki Factory

Renesas Semiconductor (Suzhou) Co., Ltd.

Affected Product List: Refer to “Product List” in “Appendix”.

Reason for Change: For stable product supply by adding Cu-wire suppliers.

Impact on Fit, Form, Function, Quality & Reliability:

The change will have no impact on the form, fit, function, quality and reliability of the devices.

Product Identification:

Our production history data can be queried by using the trace code of the product.

Qualification Status: Refer to “Q100 Qualification Test Results” in “Appendix”.

Sample Availability Date: N/A

Device Material Declaration:

Please contact and request Renesas' sales to provide Device Material Declaration.

Note:

1. Acknowledgement must be received by Renesas within 30 days or Renesas will consider the changes as approved.
2. If timely acknowledgement is provided by customers, then customers shall have 90 days from the date of receipt of this PCN to make any objections to this PCN. If customers fail 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 customers must provide Renesas with the last order quantity and purchase order.

For additional information regarding this notice, please contact your Renesas sales representative.

Additional Product List (99 Part Number)

R7F7010023AFP-C#KA4	R7F7010254AFP-C#KA2	R7F701686FAFP-C#KA1	R7F701695FAFP-C#AA1
R7F7010024AFP-C#KA4	R7F7010443AFP-C#KA2	R7F701687FAFP-C#AA1	R7F701695FAFP-C#BA1
R7F7010213AFP-C#KA4	R7F7010444AFP-C#KA2	R7F701687FAFP-C#BA1	R7F701695FAFP-C#KA1
R7F7010214AFP-C#KA4	R7F7010453AFP-C#KA2	R7F701687FAFP-C#TA1	R7F701A643AFP-C#AA1
R7F7010223AFP-C#KA4	R7F7010454AFP-C#AAT	R7F701688FAFP-C#AA1	R7F701A653AFP-C#AA1
R7F7010224AFP-C#KA4	R7F7010454AFP-C#KA2	R7F701688FAFP-C#BA1	R7F701A663AFP-C#AA1
R7F7010233AFP-C#KA4	R7F7010454AFP-C#KAT	R7F701688FAFP-C#TA1	R7F701A673AFP-C#AA1
R7F7010234AFP-C#KA4	R7F7010643AFP-C#AA8	R7F701689FAFP-C#AA1	R7F701A683AFP-C#AA1
R7F7010653AFP-C#KA4	R7F7010693AFP-C#KA2	R7F701689FAFP-C#BA1	R7F701A693AFP-C#AA1
R7F7010673AFP-C#KA4	R7F7015303AFP-C#KA2	R7F701689FAFP-C#TA1	R7F701A703AFP-C#AA1
R7F701A083AFP-C#KA4	R7F7015313AFP-C#KA2	R7F701690FAFP-C#AA1	R7F701A713AFP-C#AA1
R7F701A323AFP-C#KA4	R7F701A793AFP-C#AA1	R7F701690FAFP-C#BA1	R7F701A723AFP-C#AA1
R7F701A324AFP-C#KA4	R7F701A803AFP-C#AA1	R7F701690FAFP-C#TA1	R7F701A733AFP-C#AA1
R7F701A333AFP-C#KA4	R7F701A813AFP-C#AA1	R7F701691FAFP-C#AA1	R7F701A743AFP-C#AA1
R7F701A334AFP-C#KA4	R7F701A823AFP-C#AA1	R7F701691FAFP-C#BA1	R7F701A753AFP-C#AA1
R7F701A363AFP-C#KA4	R7F701A833AFP-C#AA1	R7F701691FAFP-C#TA1	R7F7017603AFP-C#AA1
R7F701A364AFP-C#KA4	R7F701A843AFP-C#AA1	R7F701692FAFP-C#AA1	R7F7017623AFP-C#AA1
R7F701A474AFP-C#AA4	R7F701684FAFP-C#AA1	R7F701692FAFP-C#BA1	R7F7017643AFP-C#AA1
R7F701A474AFP-C#BA4	R7F701684FAFP-C#BA1	R7F701692FAFP-C#TA1	R7F701A763AFP-C#AA1
R7F7010033AFP-C#KA2	R7F701684FAFP-C#KA1	R7F701693FAFP-C#AA1	R7F701A773AFP-C#AA1
R7F7010034AFP-C#KA2	R7F701685FAFP-C#AA1	R7F701693FAFP-C#BA1	R7F701A783AFP-C#AA1
R7F7010243AFP-C#KA2	R7F701685FAFP-C#BA1	R7F701693FAFP-C#KA1	R7F7010124AFP-C#AAT
R7F7010244AFP-C#KA2	R7F701685FAFP-C#KA1	R7F701694FAFP-C#AA1	R7F7010124AFP-C#BAT
R7F7010244AFP-C#KAT	R7F701686FAFP-C#AA1	R7F701694FAFP-C#BA1	R7F7010124AFP-C#TAT
R7F7010253AFP-C#KA2	R7F701686FAFP-C#BA1	R7F701694FAFP-C#KA1	

Appendix

Product List

RH850/F1, R1 and D1 series:

R7F7010063AFP-C#AA4	R7F7010333AFP-C#BA4	R7F7010523AFP-C#BA4	R7F701A004AFP-C#BA4
R7F7010063AFP-C#BA4	R7F7010333AFP-C#TA4	R7F7010523AFP-C#BA8	R7F701A004AFP-C#KA4
R7F7010063AFP-C#KA4	R7F7010334AFP-C#AA4	R7F7010523AFP-C#TA4	R7F701A013AFP-C#AA4
R7F7010064AFP-C#AA4	R7F7010334AFP-C#BA4	R7F7010523AFP-C#TA8	R7F701A013AFP-C#BA4
R7F7010064AFP-C#BA4	R7F7010334AFP-C#TA4	R7F7010524AFP-C#AA4	R7F701A013AFP-C#TA4
R7F7010064AFP-C#KA4	R7F7010343AFP-C#AA4	R7F7010524AFP-C#BA4	R7F701A014AFP-C#AA4
R7F7010073AFP-C#AA4	R7F7010343AFP-C#BA4	R7F7010524AFP-C#TA4	R7F701A014AFP-C#BA4
R7F7010073AFP-C#BA4	R7F7010343AFP-C#TA4	R7F7010533AFP-C#AA4	R7F701A014AFP-C#TA4
R7F7010073AFP-C#TA4	R7F7010344AFP-C#AA4	R7F7010533AFP-C#AA8	R7F7010023AFP-C#AA4
R7F7010074AFP-C#AA4	R7F7010344AFP-C#BA4	R7F7010533AFP-C#BA4	R7F7010023AFP-C#BA4
R7F7010074AFP-C#BA4	R7F7010344AFP-C#TA4	R7F7010533AFP-C#BA8	R7F7010023AFP-C#KA4
R7F7010074AFP-C#TA4	R7F7010463AFP-C#AA4	R7F7010533AFP-C#TA4	R7F7010024AFP-C#AA4
R7F7010263AFP-C#AA4	R7F7010463AFP-C#BA4	R7F7010533AFP-C#TA8	R7F7010024AFP-C#BA4
R7F7010263AFP-C#BA4	R7F7010463AFP-C#KA4	R7F7010534AFP-C#AA4	R7F7010024AFP-C#KA4
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R7F7010264AFP-C#AA4	R7F7010464AFP-C#BA4	R7F7010534AFP-C#TA4	R7F7010083AFP-C#BA4
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R7F7010264AFP-C#KA4	R7F7010473AFP-C#AA4	R7F7010543AFP-C#BA4	R7F7010084AFP-C#AA4
R7F7010273AFP-C#AA4	R7F7010473AFP-C#BA4	R7F7010543AFP-C#KA4	R7F7010084AFP-C#BA4
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R7F7010603AFP-C#AA4	R7F701A383AFP-C#AA4	R7F7010204AFP-C#AA2	R7F7010443AFP-C#KA2
R7F7010603AFP-C#BA4	R7F701A383AFP-C#BA4	R7F7010204AFP-C#BA2	R7F7010444AFP-C#AA2
R7F7010603AFP-C#TA4	R7F701A383AFP-C#TA4	R7F7010204AFP-C#TA2	R7F7010444AFP-C#BA2
R7F7010623AFP-C#AA4	R7F701A384AFP-C#AA4	R7F7010243AFP-C#AA2	R7F7010444AFP-C#KA2

R7F7010453AFP-C#AA2	R7F7015453AFP-C#BA2	R7F701A303AFP-C#AA2	R7F7015633AFP-C#KA3
R7F7010453AFP-C#BA2	R7F7015453AFP-C#KA2	R7F701A303AFP-C#BA2	R7F7015634AFP-C#AA3
R7F7010453AFP-C#KA2	R7F7015454AFP-C#AA2	R7F701A303AFP-C#TA2	R7F7015634AFP-C#BA3
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*** means ROM code

Q100 Qualification Test Results

AEC-Q100-REV-H

[Note : Qualification tests were performed using a representative product with the same wafer process and the same package structure, and also using generic data.]

Test	#	Reference	Test Conditions	Lots	S.S.	Total	Results (Fail of Total)	Comments: (N/A =Not Applicable)
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TEST GROUP A – ACCELERATED ENVIRONMENT STRESS TESTS

PC	A1	JESD22 A113 J-STD-020	Preconditioning: (Test @ Rm) SMD only; Moisture Preconditioning for THB/HAST, AC/UHST, TC, & PTC ; Peak Reflow Temp=260°C	Min.MSL=3			MSL=3	-
THB or HAST	A2	JESD22 A101	Temperature Humidity Bias: (Test @ Rm/Hot) Ta=85°C, RH=85%, 1000hrs	3	77	231	0 of 231	-
AC or UHST or TH	A3	JESD22 A118	Unbiased Highly Accelerated Stree Test: (Test @ Rm) Ta=110°C, 85% RH, 264h	3	77	231	0 of 231	-
TC	A4	JESD22 A104	Temperature Cycle: (Test @ Hot) Ta=-65°C to 150°C, 500cyc or Ta=-55°C to 150°C, 1000cyc	3	77	231	0 of 231 0 Fails after TC (WBP)	-
PTC	A5	JESD22 A105	Power Temperature Cycle: (Test @ Rm/Hot) Ta=-40°C to 125°C, 1000cyc	1	45	45	0 of 45	* Applicable products only
HTSL	A6	JESD22 A103	High Temperature Storage Life: (Test @ Rm/Hot) Ta=150°C, 1000hrs or Ta=175°C, 500hrs	1	45	45	0 of 45	-

TEST GROUP B – ACCELERATED LIFETIME SIMULATION TESTS

HTOL	B1	JESD22 A108	High Temp Operating Life: (Test @ Rm/Cold/Hot) Ta=150°C, 1000hrs	3	77	231	0 of 231	-
ELFR	B2	AEC-Q100-008	Early Life Failure Rate: (Test @ Rm/Hot) Ta=125°C, 48hrs	3	800	2400	0 of 2400	-
EDR	B3	AEC-Q100-005	NVM Endurance & Data Retention Test: (Test @ Rm/Hot)	For HTOL	3	77	231	0 of 231
				For HTSL	1	45	45	0 of 45

TEST GROUP C – PACKAGE ASSEMBLY INTEGRITY TESTS

WBS	C1	AEC-Q100-001 AEC-Q003	Wire Bond Shear Test: (Cpk > 1.67)	30 bonds	5 parts Min.	30 bonds	0 of 30bonds	Cpk>1.67
WBP	C2	Mil-STD-883 Method 2011 AEC-Q003	Wire Bond Pull: (Cpk > 1.67); Each bonder used	30 bonds	5 parts Min.	30 bonds	0 of 30bonds	Cpk>1.67
SD	C3	JESD22 B102 JSTD-002D	Solderability: (>95% coverage) 8 hr steam aging prior to testing	1	15	15	0 of 15	-
PD	C4	JESD22 B100, JESD22 B108 AEC-Q003	Physical Dimensions: (Cpk > 1.67)	3	10	30	0 of 30	Cpk>1.67
SBS	C5	AEC-Q100-010 AEC-Q003	Solder Ball Shear: (Cpk > 1.67); 5 balls from min. of 10 devices	-	-	-	-	N/A
LI	C6	JESD22 B105	Lead Integrity: (No lead cracking or breaking); Through-hole only; 10 leads from each of 5 devices	-	-	-	-	N/A

TEST GROUP D – DIE FABRICATION RELIABILITY TESTS

EM	D1	JESD61	Electromigration:	-	-	-	Pass	Confirmed by process TEG
TDDDB	D2	JESD35	Time Dependant Dielectric Breakdown:	-	-	-	Pass	Confirmed by process TEG
HCI	D3	JESD60 & 28	Hot Carrier Injection:	-	-	-	Pass	Confirmed by process TEG
NBTI	D4	JESD90	Negative Bias Temperature Instability:	-	-	-	Pass	Confirmed by process TEG
SM	D5	JESD61,87 & 202	Stress Migration:	-	-	-	Pass	Confirmed by process TEG

Test	#	Reference	Test Conditions	Lots	S.S.	Total	Results (Fail of Total)	Comments: (N/A =Not Applicable)
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TEST GROUP E- ELECTRICAL VERIFICATION

TEST	E1	User/Supplier Specification	Pre and Post Stress Electrical Test:	All	All	All	0 of All	-
HBM	E2	AEC-Q100-002	Electrostatic Discharge, Human Body Model: (Test @ Rm/Hot); (2KV HBM / Class 2 or better)	1	3	3	0 of 3 ESD Level= HBM:2	HBM>2KV
CDM	E3	AEC-Q100-011	Electrostatic Discharge, Charged Device Model: (Test @ Rm/Hot); (750V corner leads, 500V all other leads / Class C4B or better)	1	3	3	0 of 3 ESD Level= CDM:C4B	Corner leads: 750V Pass All other leads:500V Pass
LU	E4	AEC-Q100-004	Latch-Up: (Test @ Rm/Hot)	1	6	6	0 of 6	-
ED	E5	AEC-Q100-009 AEC-Q003	Electrical Distributions: (Test @ Rm/Hot/Cold) (where applicable, Cpk>1.67)	3	30	90	Cpk>1.67	-
FG	E6	AEC-Q100-007	Fault Grading:	-	-	-	>98%	-
CHAR	E7	AEC-Q003	Characterization: (Test @ Rm/Hot/Cold)	-	-	-	Pass	According to Renesas standard procedure
EMC	E9	SAE J1752/3	Electromagnetic Compatibility (Radiated Emissions)	1	1	1	0 of 1	-
SC	E10	AEC Q100-012	Short Circuit Characterization	-	-	-	-	N/A
SER	E11	JESD89-1 JESD89-2 JESD89-3	Soft Error Rate	1	3	3	Pass	* Applicable product only
LF	E12	AEC-Q005	Lead (Pb) Free: (see AEC-Q005)	-	-	-	Pass	Solderability: See SD (C3) result. Solder heat resistance: N/A (Wave Solder is Not recommended.) Whisker: Performed on product TEG with test method based on JESD201.

TEST GROUP F – DEFECT SCREENING TESTS

PAT	F1	AEC-Q001	Process Average Testing: (see AEC-Q001)	All	All	All	Reject units outside PAT limits	Apply to mass production according to Renesas standard procedure
SBA	F2	AEC-Q002	Statistical Bin/Yield Analysis: (see AEC-Q002)	All	All	All	Reject units outside criteria	Apply to mass production according to Renesas standard procedure

TEST GROUP G – CAVITY PACKAGE INTEGRITY TESTS (for Ceramic Package testing only)

MS	G1	JESD22 B104	Mechanical Shock: (Test @ Rm)	-	-	-	-	N/A
VFV	G2	JESD22 B103	Variable Frequency Vibration: (Test @ Rm)	-	-	-	-	N/A
CA	G3	MIL-STD-883 Method 2001	Constant Acceleration: (Test @ Rm)	-	-	-	-	N/A
GFL	G4	MIL-STD-883 Method 1014	Gross and Fine Leak:	-	-	-	-	N/A
DROP	G5	-----	Drop Test: (Test @ Rm) MEMS cavity parts only. Drop part on each of 6 axes once from a height of 1.2m onto a concrete surface.	-	-	-	-	N/A
LT	G6	MIL-STD-883 Method 2004	Lid Torque:	-	-	-	-	N/A
DS	G7	MIL-STD-883 Method 2019	Die Shear:	-	-	-	-	N/A
IWV	G8	MIL-STD-883 Method 1018	Internal Water Vapor:	-	-	-	-	N/A