

Product Change Notice (PCN)

Subject: Notice of Change in Wire and Materials for RX630/631/63N Group LFBGA Package products

Publication Date: 6/24/2025

Effective Date: 10/1/2025

Revision Description: Revision 1 (Replacement of Appendix 3.Reliability Test Results)

Description of Change:

- Applicable products: RX630/631/63N Group LFBGA-176 Package products
- Assembly/Final test factory : Renesas Electronics Corporation Yonezawa Factory (“Yonezawa”)
- Changes: Change to the wiring material and Mold resin materials.

The materials to be changed are those that have been used in the Yonezawa assembly.

| Target Package | Wire Material | | Mold resin materials | |
|----------------|----------------|------------------|----------------------|--------------|
| | Before change | After change | Before change | After change |
| LFBGA-176 | Gold wire (Au) | Copper wire (Cu) | Mold resin A | Mold resin B |

Affected Product List:

Refer to the Product List in the appendix below.

Reason for Change:

To ensure a stable supply and to improve productivity.

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

This change will not affect fitting, form, function, quality, and reliability.

Product Identification:

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

Qualification Status:

The reliability test has been completed. Please refer to the attached supplementary materials.

Sample Availability Date: 10/1/2025

Any requests for samples must be received by 8/20/2025.

Please contact Renesas sales, distributor, or agency.

Device Material Declaration:

Please contact our sales representatives or distributors.

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 Renesas sales representative.

Appendix: List of Part Numbers

| No. | Part Number | Package Type | No. of Pins | Group |
|------------|--------------------|---------------------|--------------------|--------------|
| 1 | R5F56308CDBG#U0 | LFBGA | 176 | RX630 |
| 2 | R5F56308DDBG#U0 | LFBGA | 176 | RX630 |
| 3 | R5F5630ACDBG#G0 | LFBGA | 176 | RX630 |
| 4 | R5F5630ACDBG#U0 | LFBGA | 176 | RX630 |
| 5 | R5F5630ADDBG#U0 | LFBGA | 176 | RX630 |
| 6 | R5F5630BCDBG#U0 | LFBGA | 176 | RX630 |
| 7 | R5F5630BDDBG#G0 | LFBGA | 176 | RX630 |
| 8 | R5F5630BDDBG#U0 | LFBGA | 176 | RX630 |
| 9 | R5F5630DCDBG#G0 | LFBGA | 176 | RX630 |
| 10 | R5F5630DCDBG#U0 | LFBGA | 176 | RX630 |
| 11 | R5F5630DDDBG#U0 | LFBGA | 176 | RX630 |
| 12 | R5F5630ECDBG#G0 | LFBGA | 176 | RX630 |
| 13 | R5F5630ECDBG#U0 | LFBGA | 176 | RX630 |
| 14 | R5F5630EDDBG#G0 | LFBGA | 176 | RX630 |
| 15 | R5F5630EDDBG#U0 | LFBGA | 176 | RX630 |
| 16 | R5F56316CDBG#G0 | LFBGA | 176 | RX631 |
| 17 | R5F56316CDBG#U0 | LFBGA | 176 | RX631 |
| 18 | R5F56316DDBG#U0 | LFBGA | 176 | RX631 |
| 19 | R5F56316SDBG#U0 | LFBGA | 176 | RX631 |
| 20 | R5F56317CDBG#U0 | LFBGA | 176 | RX631 |
| 21 | R5F56317DDBG#U0 | LFBGA | 176 | RX631 |
| 22 | R5F56317SDBG#U0 | LFBGA | 176 | RX631 |
| 23 | R5F56318CDBG#G0 | LFBGA | 176 | RX631 |
| 24 | R5F56318CDBG#U0 | LFBGA | 176 | RX631 |
| 25 | R5F56318DDBG#G0 | LFBGA | 176 | RX631 |
| 26 | R5F56318DDBG#U0 | LFBGA | 176 | RX631 |
| 27 | R5F56318SDBG#U0 | LFBGA | 176 | RX631 |
| 28 | R5F5631ACDBG#G0 | LFBGA | 176 | RX631 |
| 29 | R5F5631ACDBG#U0 | LFBGA | 176 | RX631 |
| 30 | R5F5631ADDBG#U0 | LFBGA | 176 | RX631 |
| 31 | R5F5631BCDBG#G0 | LFBGA | 176 | RX631 |
| 32 | R5F5631BCDBG#U0 | LFBGA | 176 | RX631 |
| 33 | R5F5631BDDBG#G0 | LFBGA | 176 | RX631 |
| 34 | R5F5631BDDBG#U0 | LFBGA | 176 | RX631 |
| 35 | R5F5631DCDBG#U0 | LFBGA | 176 | RX631 |
| 36 | R5F5631DDDBG#U0 | LFBGA | 176 | RX631 |
| 37 | R5F5631ECDBG#G0 | LFBGA | 176 | RX631 |
| 38 | R5F5631ECDBG#U0 | LFBGA | 176 | RX631 |
| 39 | R5F5631EDDBG#G0 | LFBGA | 176 | RX631 |
| 40 | R5F5631EDDBG#U0 | LFBGA | 176 | RX631 |
| 41 | R5F563NACDBG#U0 | LFBGA | 176 | RX63N |
| 42 | R5F563NADDBG#U0 | LFBGA | 176 | RX63N |
| 43 | R5F563NBCDBG#G0 | LFBGA | 176 | RX63N |
| 44 | R5F563NBCDBG#U0 | LFBGA | 176 | RX63N |
| 45 | R5F563NBDDDBG#G0 | LFBGA | 176 | RX63N |
| 46 | R5F563NBDDDBG#U0 | LFBGA | 176 | RX63N |
| 47 | R5F563NDCDBG#G0 | LFBGA | 176 | RX63N |
| 48 | R5F563NDCDBG#U0 | LFBGA | 176 | RX63N |
| 49 | R5F563NDDDBG#U0 | LFBGA | 176 | RX63N |
| 50 | R5F563NECDBG#G0 | LFBGA | 176 | RX63N |
| 51 | R5F563NECDBG#U0 | LFBGA | 176 | RX63N |
| 52 | R5F563NEDDBG#G0 | LFBGA | 176 | RX63N |
| 53 | R5F563NEDDBG#U0 | LFBGA | 176 | RX63N |

1. Overview of Changed Materials

| Item | | Before Change | After Change | Note |
|--------------------|------------|--|---|----------------------------|
| Assembly factory | | Renesas Electronics Corporation Yonezawa Factory ("Yonezawa") | | - |
| Final test factory | | | | |
| Material | Wier | Gold wire (Au) | Copper wire (Cu) | - |
| | Substrate | - | - | - |
| | Die bond | - | - | - |
| | Mold resin | Mold resin A manufactured by company A | Mold resin B manufactured by company A | Similar materials are used |
| Package | Outline | - | - | - |
| Marking | Font | - | - | - |

* There will be no impact on product's reliability and specification.

2. 4M changing points

| Item | Check result | Judgement |
|----------|---|-----------|
| Machine | The same manufacturing equipment as the current product is used. | No risk |
| Method | The same as current products. | No risk |
| Man | Adopt operator certification system. Only certificated operator can work for the production. | No risk |
| Material | Only use certificated materials. The products has been certificated by reliability test same as present products and have no risk. | No risk |

3. Reliability Test Results

| Test Items | Test Conditions | ResultsFailure/Size |
|---------------------------------------|---|---------------------|
| High Temperature Operating Life(HTOL) | Ta=125 °C, <u>Vccmax</u> , 1000 hrs | 0/22 |
| High Temperature Storage Life(HTSL) | Ta=150 °C, 1000 hrs | 0/22 |
| Temperature Humidity bias(THB) (*1) | Ta=85 °C, RH=85 %, <u>Vccmax</u> , 1000 hrs | 0/22 |
| Temperature Cycling(TC) (*1) | Ta=-55 °C to 125 °C , 500 cycles | 0/22 |
| Latch-Up(LU) | Pulse Current Injection, I=+-150 mA | 0/3 |
| Electrostatic discharge(ESD-HBM) | 1.5 kΩ, 100 pF, +/-2000 V, 1 time | 0/3 |
| Electrostatic discharge(ESD-CDM) | +/-1000V,1time | 0/3 |
| Resistance to Soldering Heat(PC) | MSL3(Moisture Sensitivity Level 3) | 0/22 |

*1) Preprocessing of MSL3 was applied to THB and TC.

- It is tested to confirm that all the samples are satisfied with an individual product specification.

- Basically qualification tests were performed using a representative product with the same wafer process and the same package structure .