

Version: 2.0

Customer:	All Customers
Renesas Product Type:	MCU products RL78/G12, G13, G14, L12 (please refer to page 4)
Description of Change:	Change of material - Bonding wire - Mold resin
Reason for Change:	For stable and continuity of supply
Identification:	Production history data can be queried by using packing label or trace code.
Schedules:	Deadline for sample request: April 2019 Qualification test results & samples: upon request from August 2019 onwards Requested approval: April 2019 (in case of sample evaluation Sept. 2019) Shipment of new Parts: from August 2019 onwards
Anticipated Impact:	Electrical specification: No change Product characterisation: No change Quality & Reliability: No change
Doc. No.:	EEQC-PCN-CR-19-0018
Internal Reference:	MCP-AC-19-0010

In case of any question, please contact:

INITIATOR	TITLE	E-mail	PHONE No.
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Düsseldorf, 13.02.2019

Customer Response:
(please fill in and return by e-mail, fax or mail)

- ☐ acknowledge
☐ acceptable
☐ unacceptable (pls. comment)
☐ not applicable
- Company: _____
 Name & Position: _____
 Phone / Fax No.: _____

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

Comments:

(Signature)

Details of Change:

Products:

	20pinLSSOP (300mil/0.65)	30pinLSSOP (300mil/0.65)	64pinLQFP (12x12/0.65)	80pinLQFP (14x14/0.65)	100pinLQFP (14x20/0.65)	128pinLQFP (14x20/0.50)
G12		○				
G13	○	○	○	○	○	○
G14		○	○	○	○	
L12			○			

Change of material

Bonding wire change:

Current material: Gold (Au)

Change material: Copper (Cu)

Mold resin material

Ordering part number will change

Difference of specification (RL78/G12,G13,G14,L12)

ASSEMBLY: RSKL, SORTING:RSKL

BONDING WIRE : Au → Cu

Difference of specification (Change of wire)

Item		Current	New
Assembly factory		RSKL	
Sorting factory		RSKL	
Package	Outline	No change	
Lead frame	Material	No change	
	Inner pattern	No change	
Die mount material	Material	No change	
Bonding wire	Material	No change (Au)	Change Cu (Pd coating)
Resin	Material	No change (halogen-free)	Change (halogen-free)
Plating	Material	No change	
Marking	Font	No change	
	Digit number	No change	
Packing	Tray / Emboss tape	No change	

※ There is no impact on reliability and specification by material change.

Outline:

- Assembly factory: No change
Renesas Semiconductor KL Sdn. Bhd. (RSKL)
- Sorting factory: No change
Renesas Semiconductor KL Sdn. Bhd. (RSKL)
- Change of material: 1) Bonding wire, 2) Resin
- Change of ordering Part Number:
The products which are changed the bonding wire from Gold (Au) to Copper (Cu) are changed the ordering Part Number as follows.
Current part number: R5F1*****#V0, R5F1*****#X0
New part number: R5F1*****#30, R5F1*****#50
- Specification and characteristics of product:
No change
- Quality and reliability:
No change

4M Changing Points:

Item	Check Result	Judgement
Machine	Copper wire products are produced by same wire-bonding machine applied for gold wire. To prevent copper wire oxidization, inert gas is used to wire-bonding process. There are production of similar copper wire products and we have already checked that the additional products have no risk on the production.	No risk
Method	Bonding method (thermosonic bonding) and process flow for the Cu wiring are same as the Au wiring.	No risk
Man	No change.	No risk
Material	Using only certificated copper wire and furthermore certificated materials for the Cu wiring products are applied. The products has been certificated by reliability test, same as gold wire products and have no risk.	No risk

Product List

R5F1006AASP#V0	R5F100LFAFA#V0	R5F1016EASP#X0	R5F102AADSP#X0
R5F1006AASP#X0	R5F100LFDFA#V0	R5F101AAASP#V0	R5F102AAGSP#V0
R5F1006ADSP#V0	R5F100LFGFA#V0	R5F101ACASP#V0	R5F102AAGSP#X0
R5F1006AGG00SP#V0	R5F100LGFA#V0	R5F101ACASP#X0	R5F103A7ASP#V0
R5F1006AGG03SP#X0	R5F100LGDFFA#V0	R5F101ACDSP#V0	R5F103A7ASP#X0
R5F1006AGSP#V0	R5F100LGGFA#V0	R5F101ACDSP#X0	R5F103A8AA01SP#X0
R5F1006AGSP#X0	R5F100LHFAFA#V0	R5F101AEASP#V0	R5F103A8ASP#V0
R5F1006CA100SP#V0	R5F100LHGFA#V0	R5F101AEASP#X0	R5F103A8ASP#X0
R5F1006CAA00SP#V0	R5F100LJFAFA#V0	R5F101AFAA00SP#V0	R5F103AAASP#V0
R5F1006CASP#V0	R5F100LJDFA#V0	R5F101AFAA01SP#V0	R5F103AAASP#X0
R5F1006CASP#X0	R5F100LKFAFA#V0	R5F101AFASP#V0	R5F103AADSP#V0
R5F1006CDSP#V0	R5F100LLFAFA#V0	R5F101AFASP#X0	R5F104AAASP#V0
R5F1006CGSP#V0	R5F100LLDFA#V0	R5F101AGASP#V0	R5F104AAASP#X0
R5F1006CGSP#X0	R5F100MFAFA#V0	R5F101AGASP#X0	R5F104AADE00SP#V0
R5F1006DASP#V0	R5F100MFDFA#V0	R5F101LCAFA#V0	R5F104AADSP#V0
R5F1006EASP#V0	R5F100MFGFA#V0	R5F101LDDFA#V0	R5F104AADSP#X0
R5F100AAA100SP#V0	R5F100MGFAFA#V0	R5F101LEAFA#V0	R5F104AAGSP#V0
R5F100AAASP#V0	R5F100MGDFA#V0	R5F101LEAFA#X0	R5F104ACASP#V0
R5F100AAASP#X0	R5F100MHAA03FA#V0	R5F101LGAFA#V0	R5F104ACASP#X0
R5F100AADSP#V0	R5F100MHAA04FA#V0	R5F101LJFAFA#V0	R5F104ACGSP#V0
R5F100AAGSP#V0	R5F100MHAA05FA#V0	R5F101MFAFA#V0	R5F104ADASP#V0
R5F100AAGSP#X0	R5F100MHAA06FA#V0	R5F101MGFAFA#V0	R5F104ADASP#X0
R5F100ACAA00SP#X0	R5F100MHAA07FA#V0	R5F101MHFAFA#V0	R5F104AEASP#V0
R5F100ACAA01SP#X0	R5F100MHAA10FA#V0	R5F101PFAFA#V0	R5F104AEASP#X0
R5F100ACAA07SP#X0	R5F100MHAA11FA#V0	R5F101SHAFB#V0	R5F104AFASP#V0
R5F100ACASP#V0	R5F100MHAA12FA#V0	R5F101SHDFB#V0	R5F104AFASP#X0
R5F100ACASP#X0	R5F100MHAA14FA#V0	R5F101SJDFB#V0	R5F104AGASP#V0
R5F100ACDSP#V0	R5F100MHFAFA#V0	R5F101SKDFB#V0	R5F104AGASP#X0
R5F100ACGSP#V0	R5F100MJFAFA#V0	R5F102A7ASP#V0	R5F104AGDSP#V0
R5F100ACGSP#X0	R5F100MKFAFA#V0	R5F102A7ASP#X0	R5F104AGGSP#V0
R5F100ADASP#V0	R5F100MLFAFA#V0	R5F102A7GSP#V0	R5F104AGGSP#X0
R5F100ADASP#X0	R5F100MLDFA#V0	R5F102A7GSP#X0	R5F104LCAFA#V0
R5F100ADDSP#V0	R5F100PFAFA#V0	R5F102A8A100SP#V0	R5F104LDFAFA#V0
R5F100ADGSP#V0	R5F100PGAFA#V0	R5F102A8A102SP#V0	R5F104LEAFA#V0
R5F100AEASP#V0	R5F100PHDFA#V0	R5F102A8AA02SP#X0	R5F104LFAFA#V0
R5F100AEASP#X0	R5F100PJFAFA#V0	R5F102A8AA03SP#V0	R5F104LGAFA#V0
R5F100AEDSP#V0	R5F100PJDFFA#V0	R5F102A8ASP#V0	R5F104LHFAFA#V0
R5F100AEGSP#V0	R5F100PJGFA#V0	R5F102A8ASP#X0	R5F104LJFAFA#V0
R5F100AEGSP#X0	R5F100PLAFA#V0	R5F102A8DSP#V0	R5F104MFAFA#V0
R5F100AFASP#V0	R5F100SHAFB#V0	R5F102A8GSP#V0	R5F104MFGFA#V0
R5F100AFASP#X0	R5F100SHDFB#V0	R5F102A8GSP#X0	R5F104MGFAFA#V0
R5F100AFDE00SP#V0	R5F100SJAFB#V0	R5F102A9AA01SP#V0	R5F104MGDFA#V0
R5F100AFDE01SP#V0	R5F100SJDFB#V0	R5F102A9ASP#V0	R5F104MGGFA#V0
R5F100AFDSP#V0	R5F100SKAFB#V0	R5F102A9ASP#X0	R5F104MHFAFA#V0
R5F100AFGSP#V0	R5F100SLAFB#V0	R5F102AAAA00SP#V0	R5F104MHFAFA#X0
R5F100AGASP#V0	R5F100SLDFB#V0	R5F102AAAA05SP#X0	R5F104MJFAFA#V0
R5F100AGASP#X0	R5F1016AASP#V0	R5F102AAAA06SP#V0	R5F104MJGFA#V0
R5F100AGGSP#V0	R5F1016AASP#X0	R5F102AAAA11SP#V0	R5F104PGAFA#V0
R5F100LCAFA#V0	R5F1016ADSP#X0	R5F102AAAA14SP#X0	R5F104PHAFA#V0
R5F100LCGFA#V0	R5F1016CA100SP#V0	R5F102AAASP#V0	R5F104PJFAFA#V0
R5F100LDFAFA#V0	R5F1016CASP#V0	R5F102AAASP#X0	R5F10RLAFAFA#V0
R5F100LEAFA#V0	R5F1016DASP#V0	R5F102AADSP#V0	R5F10RLCAFA#V0
R5F100LEDFA#V0	R5F1016EASP#V0		R5F10RLCGFA#V0