Product Change Notice

(PCN Tracking Number: EE-QR-221114-01)

Version: 1

Customer:	ALL Customers
Renesas Product Type:	RL78 family, LQFP 10x10mm/44pin, Greatek assembly, listed on page 2
Description of Change:	Suspension lead's edge shape of lead frame and appearance of this part
Reason for Change:	Improvement of productivity
Identification:	Identifiable via production history data from the packing label or trace code
Schedules:	Reliability report: b/o Dec. 2022 (upon request) Requested approval e/o Dec. 2022 Change Implementation b/o Jan. 2023 onwards
Anticipated Impact:	Fit, Form & Function: No impact Quality & Reliability: No impact
Doc. No.:	EE-QC-PCN-CR-22-0210
Internal Reference:	PC-MCU-B015A/E

In case of any question, please contact:

INITIATOR	TITLE	E-mail	PHONE No.
Farhad Banihashemi	Staff Engineer	farhad.banihashemi@renesas.com	+49-211-6503-1844

Düsseldorf, 14.11.2022

Customer Response:

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

☐ acknowledge
☐ acceptable
☐ inacceptable (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)

Affected Products:

R5F100FAAFP#10	R5F100FAAFP#50	R5F100FAGFP#10	R5F100FAGFP#50
R5F100FCAFP#10	R5F100FCAFP#50	R5F100FCGFP#10	R5F100FCGFP#50
R5F100FDAFP#10	R5F100FDAFP#50	R5F100FDGFP#10	R5F100FDGFP#50
R5F100FEAFP#10	R5F100FEAFP#50	R5F100FEGFP#10	R5F100FEGFP#50
R5F101FAAFP#10	R5F101FAAFP#50	R5F101FCAFP#10	R5F101FCAFP#50
R5F101FDAFP#10	R5F101FDAFP#50	R5F101FEAFP#10	R5F101FEAFP#50
R5F100FFAFP#10	R5F100FFAFP#50	R5F100FFGFP#10	R5F100FFGFP#50
R5F100FGAFP#10	R5F100FGAFP#50	R5F100FGGFP#10	R5F100FGGFP#50
R5F100FHAFP#10	R5F100FHAFP#50	R5F100FHGFP#10	R5F100FHGFP#50
R5F100FJAFP#10	R5F100FJAFP#50	R5F100FJGFP#10	R5F100FJGFP#50
R5F101FFAFP#10	R5F101FFAFP#50	R5F101FGAFP#10	R5F101FGAFP#50
R5F101FHAFP#10	R5F101FHAFP#50	R5F101FJAFP#10	R5F101FJAFP#50
R5F100FKAFP#10	R5F100FKAFP#50	R5F100FLAFP#10	R5F100FLAFP#50
R5F101FKAFP#10	R5F101FKAFP#50	R5F101FLAFP#10	R5F101FLAFP#50
R5F104FAAFP#10	R5F104FAAFP#50	R5F104FAGFP#10	R5F104FAGFP#50
R5F104FCAFP#10	R5F104FCAFP#50	R5F104FCGFP#10	R5F104FCGFP#50
R5F104FDAFP#10	R5F104FDAFP#50	R5F104FDGFP#10	R5F104FDGFP#50
R5F104FEAFP#10	R5F104FEAFP#50	R5F104FEGFP#10	R5F104FEGFP#50
R5F104FFAFP#10	R5F104FFAFP#50	R5F104FFGFP#10	R5F104FFGFP#50
R5F104FGAFP#10	R5F104FGAFP#50	R5F104FGGFP#10	R5F104FGGFP#50
R5F104FHAFP#10	R5F104FHAFP#50	R5F104FHGFP#10	R5F104FHGFP#50
R5F104FJAFP#10	R5F104FJAFP#50	R5F104FJGFP#10	R5F104FJGFP#50
R5F10RF8AFP#10	R5F10RF8AFP#50	R5F10RF8GFP#10	R5F10RF8GFP#50
R5F10RFAAFP#10	R5F10RFAAFP#50	R5F10RFAGFP#10	R5F10RFAGFP#50
R5F10RFCAFP#10	R5F10RFCAFP#50	R5F10RFCGFP#10	R5F10RFCGFP#50
R5F100FKDFP#10	R5F100FKDFP#50	R5F100FLDFP#10	R5F100FLDFP#50
R5F101FKDFP#10	R5F101FKDFP#50	R5F101FLDFP#10	R5F101FLDFP#50

Details of Change:

Difference outline

- Assembly factory:
  Greatek Electronics Inc. (Greatek)

- Package outline:
  10mm x 10mm 0.8mm pitch 44pin LQFP

- Difference point
  Assembly material: Lead frame suspension lead edge shape and appearance of the part.

  - Specification and characteristics of product:
    No impact
  - Quality and reliability
    No impact

Difference of specification

Item		New	Current
Assembly factory		Greatek	
Sorting factory		Greatek	
Package	Outline	No difference	
Lead frame	Suspension lead edge shape	There is difference (Refer to page 5)	
	Material	No difference	
	Inner lead design	No difference	
Die mount	Material	No difference	
Bonding wire	Material	No difference	
Mold resin	Material	No difference	
Plating	Material	No difference	
Marking	Font	No difference	
	Digit number	No difference	

EFFORTS IN CHANGE

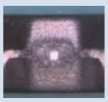
Item	Failure mode	Cause	Response at startup	Judgement
Suspension lead edge shape change	Outline failure	Defective outline of package edge	Outline dimensions comparison	**No problem**
	Impact on reliability	Delamination after reflow	Reliability confirmation	**No problem**

4M change points
(Suspension lead edge shape change material application)

Item	Check Result	Judgement
Machine	There is no difference. The products are certificated same as existing products and no problem.	**No risk**
Method	There is no difference.	**No risk**
Operator	Adopt operator certification system. Only certificated operator can work for the production.	**No risk**
Material	Only use certificated materials. (Refer to the photo on page 6 for the difference in shape) The products are certificated same as existing products and no problem.	**No risk**

DETAIL OF DIFFERENCE POINT

Change the edge shape of the suspension lead on the 1-pin side. (Already used in other packages)
(Suspension lead is a lead for fixing the Die pad that mounts the Die on the lead frame in the package.)
The surface shape of the 1pin part change.

Difference Point	New	Current
Top photo of 1pin part		
Side photo of 1pin part		
X-ray photograph showing the edge shape of suspension lead