

Product Change Notice (PCN)

Subject: Assembly & sorting factory addition for RL78/G13, RL78/G14 LFQFP 80pin package products

Publication Date: 10/21/2024

Effective Date: 2/28/2025

Revision Description:

Initial release

Description of Change:

Group name : RL78/G13、RL78/G14

Target package : 12mm×12mm 0.5mm pitch 80pin LFQFP

Assembly and sorting factory:

Additional factory: Renesas Semiconductor KL Sdn. Bhd. (KL)

Existing assembly factory: Renesas Semiconductor (Beijing) Co., Ltd. (Beijing)
Advanced Semiconductor Engineering Inc. (ASEKH)
Greatek Electronics Inc. (Greatek)

Existing sorting factory: Renesas Semiconductor (Beijing) Co., Ltd. (Beijing)
King Yuan Electronics Co., Ltd. (KYEK)

Note) Existing factories are different depending on the part number.

Item		Additional factory	Existing factory	Existing factory	Existing factory
Assembly factory		KL	Beijing	Greatek	ASEKH
Sorting factory		KL	Beijing	KYEK	Beijing or KYEK
Package	Outline	There are differences (Refer to the Package outline and the Dimension comparison)			
Lead frame	Material	No change			
	Inner pattern	There are differences (Refer to the Package structure image)			
Die mount	Material	Ag epoxy paste D *	Ag epoxy paste A *	Ag epoxy paste B *	Ag epoxy paste C *
Bonding wire	Material	No change: Cu (Pd coating)			
Resin	Material	Epoxy resin D * (halogen-free)	Epoxy resin A * (halogen-free)	Epoxy resin B * (halogen-free)	Epoxy resin C * (halogen-free)
Plating	Material	No change			
Marking		There are differences (Refer to the Marking specification and the Marking photos)			
Packing	Tray/ Emboss tape	No change			
Storage conditions	after opening	30°C/70%RH/ within 168hr		30°C/60%RH/ within 168hr (JEDEC standard)	

* Factory certified materials.

There are differences in materials, but there is no change in reliability or characteristics.

Affected Product List:

R5F100MFAFB#10	R5F100MKAFB#50	R5F101MJAFB#50	R5F104MFAFB#70
R5F100MFAFB#50	R5F100MKAFB#70	R5F101MJAFB#70	R5F104MFGFB#10
R5F100MFAFB#70	R5F100MKDFB#10	R5F101MKAFB#10	R5F104MFGFB#50
R5F100MFGFB#10	R5F100MKDFB#50	R5F101MKAFB#50	R5F104MFGFB#70
R5F100MFGFB#50	R5F100MKDFB#70	R5F101MKAFB#70	R5F104MGAFB#10
R5F100MFGFB#70	R5F100MLAFB#10	R5F101MKDFB#10	R5F104MGAFB#50
R5F100MGAFB#10	R5F100MLAFB#50	R5F101MKDFB#50	R5F104MGAFB#70

R5F100MGAFB#50	R5F100MLAFB#70	R5F101MKDFB#70	R5F104MGGFB#10
R5F100MGAFB#70	R5F100MLDFB#10	R5F101MLAFB#10	R5F104MGGFB#50
R5F100MGGFB#10	R5F100MLDFB#50	R5F101MLAFB#50	R5F104MGGFB#70
R5F100MGGFB#50	R5F100MLDFB#70	R5F101MLAFB#70	R5F104MHAA16FB#10
R5F100MGGFB#70	R5F101MFAFB#10	R5F101MLDFB#10	R5F104MHA FB#10
R5F100MHA FB#10	R5F101MFAFB#50	R5F101MLDFB#50	R5F104MHA FB#50
R5F100MHA FB#50	R5F101MFAFB#70	R5F101MLDFB#70	R5F104MHA FB#70
R5F100MHA FB#70	R5F101MGAA02FB#10	R5F104MFAA06FB#10	R5F104MHGFB#10
R5F100MHGFB#10	R5F101MGAA04FB#10	R5F104MFAA07FB#10	R5F104MHGFB#50
R5F100MHGFB#50	R5F101MGAA07FB#10	R5F104MFAA08FB#10	R5F104MHGFB#70
R5F100MHGFB#70	R5F101MGAA08FB#10	R5F104MFAA09FB#10	R5F104MJAA00FB#10
R5F100MJAFB#10	R5F101MGA FB#10	R5F104MFAA10FB#10	R5F104MJAFB#10
R5F100MJAFB#50	R5F101MGA FB#50	R5F104MFAA11FB#10	R5F104MJAFB#50
R5F100MJAFB#70	R5F101MGA FB#70	R5F104MFAA12FB#10	R5F104MJAFB#70
R5F100MJGFB#10	R5F101MHA FB#10	R5F104MFAA13FB#10	R5F104MJGFB#10
R5F100MJGFB#50	R5F101MHA FB#50	R5F104MFAA14FB#10	R5F104MJGFB#50
R5F100MJGFB#70	R5F101MHA FB#70	R5F104MFA FB#10	R5F104MJGFB#70
R5F100MKA FB#10	R5F101MJAFB#10	R5F104MFA FB#50	

Reason for Change:

Stable supply for target group products.

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

Form: Refer to the "Appendix" for detail.

Fit, Function, Quality & Reliability: No Impact

Product Identification:

Our production history data can be checked from packing label or trace code.

Qualification Status: Completed.

Sample Availability Date: 12/25/2024

PCN sample is a representative ES sample.

The ES sample has the same functionality as the mass-produced product and its sample is the representative (ROM/RAM capacity, Fields of application and Wafer process).

Differences from MP products: The sorting place is different (the test program is the same).

Device Material Declaration: Available upon request.

Note:

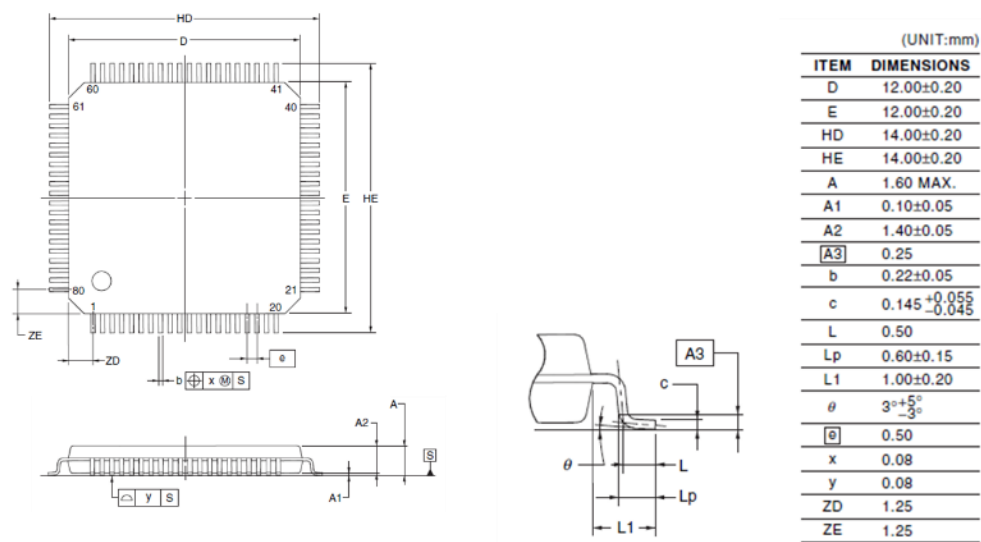
1. Acknowledgement must be received by Renesas within 30 days or Renesas will consider the change as approved.
2. If timely acknowledgement is provided by Customer, then Customer shall have 90 days from the date of receipt of this PCN to make any objections to this PCN. If Customer fails to make objections 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 your Renesas sales representative.

APPENDIX

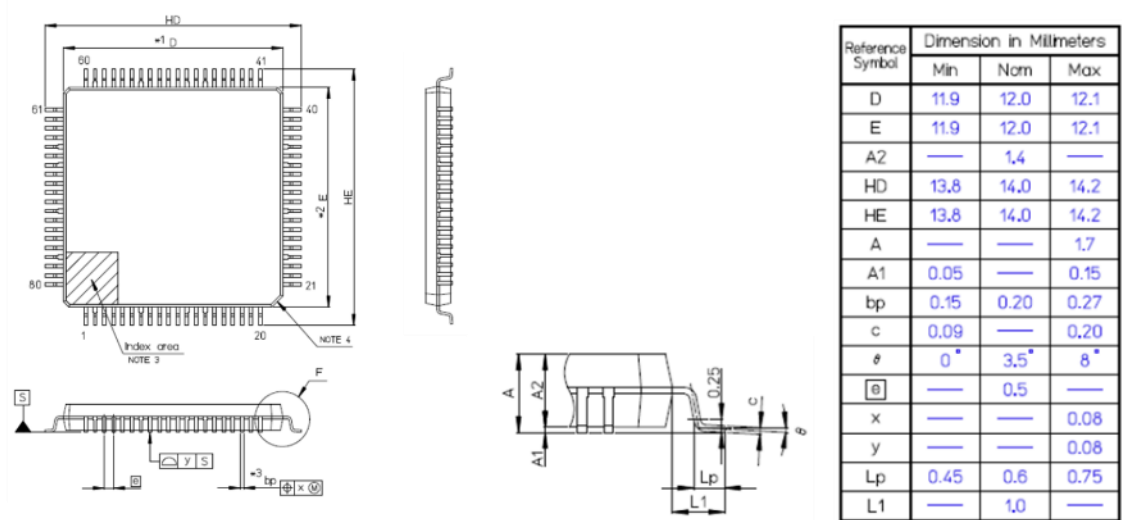
12mm×12mm 0.5mm pitch 80pin LFQFP Package outline (KL)

RENESAS Code : PLQP0080KE-A



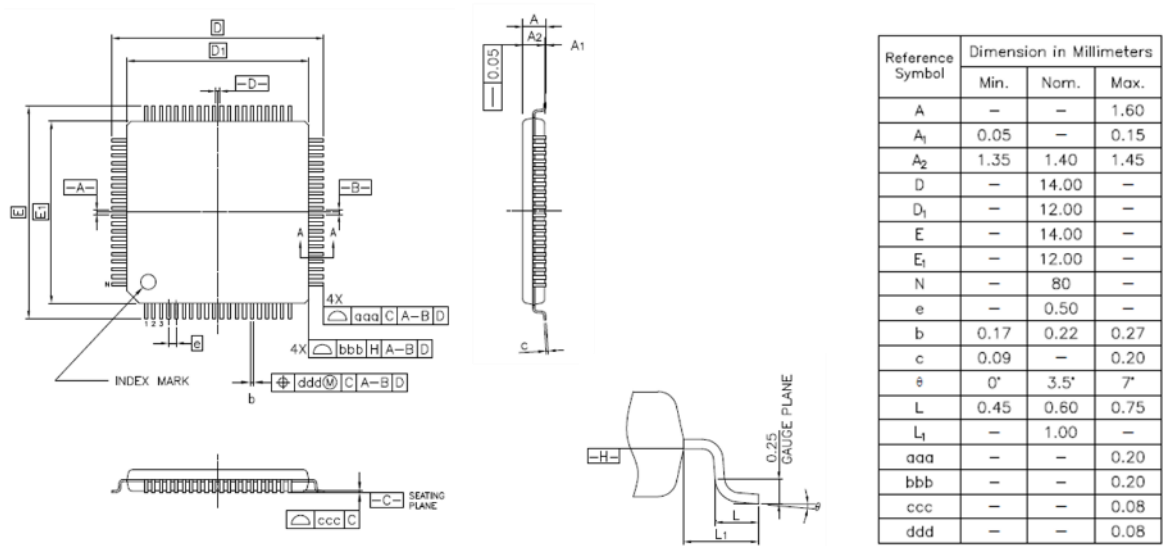
12mm×12mm 0.5mm pitch 80pin LFQFP Package outline (Beijing/ASEKH)

RENESAS Code : PLQP0080KB-B



12mm×12mm 0.5mm pitch 80pin LFQFP Package outline (Greatek)

RENESAS Code : PLQP0080KJ-A



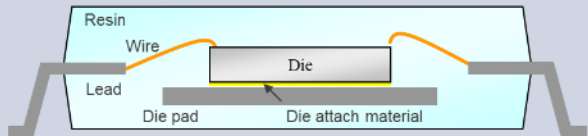
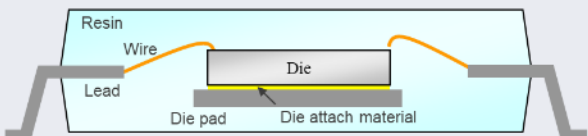
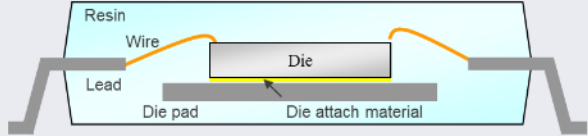
Dimension comparison: 12mm x 12mm 0.5mm pitch 80pin LFQFP

KL,Beijing package symbols complied to JEITA standard, and Greatek package symbols complied to JEDEC standard.

KL Symbol	12x12mm 80pin LFQFP PLQP0080KE-A			Beijing ASEKH Symbol	12x12mm 80pin LFQFP PLQP0080KB-B			Greatek Symbol	12x12mm 80pin LFQFP PLQP0080KJ-A		
	Dimension in Millimeters				Dimension in Millimeters				Dimension in Millimeters		
	Min	Nom	Max		Min	Nom	Max		Min	Nom	Max
A	-	-	1.60	A	-	-	1.70	A	-	-	1.60
A1	0.05	0.10	0.15	A1	0.05	-	0.15	A1	0.05	-	0.15
A2	1.35	1.40	1.45	A2	-	1.40	-	A2	1.35	1.40	1.45
HD	13.80	14.00	14.20	HD	13.80	14.00	14.20	D	-	14.00	-
D	11.80	12.00	12.20	D	11.90	12.00	12.10	D1	-	12.00	-
HE	13.80	14.00	14.20	HE	13.80	14.00	14.20	E	-	14.00	-
E	11.80	12.00	12.20	E	11.90	12.00	12.10	E1	-	12.00	-
-	-	-	-	-	-	-	-	N	-	80	-
e	-	0.50	-	e	-	0.50	-	e	-	0.50	-
b	0.17	0.22	0.27	bp	0.15	0.20	0.27	b	0.17	0.22	0.27
c	0.10	0.145	0.20	c	0.09	-	0.20	c	0.09	-	0.20
θ	0°	3.0°	8°	θ	0°	3.5°	8°	θ	0°	3.5°	7°
Lp	0.45	0.60	0.75	Lp	0.45	0.60	0.75	L	0.45	0.60	0.75
L1	0.80	1.00	1.20	L1	-	1.00	-	L1	-	1.00	-
-	-	-	-	-	-	-	-	aaa	-	-	0.20
-	-	-	-	-	-	-	-	bbb	-	-	0.20
y	-	-	0.08	y	-	-	0.08	ccc	-	-	0.08
x	-	-	0.08	x	-	-	0.08	ddd	-	-	0.08

Package structure image

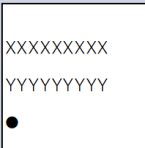
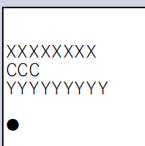
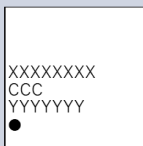
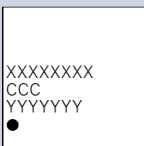
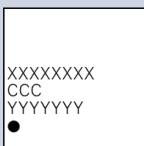
Package Section and die pad shape is a reference example.

Assembly factory	PKG cross section	Die pad shape
Additional factory		 KL
Existing factory		 Beijing
		 Greatek / ASEKH

There is no impact on the reliability by die pad shape.

Marking specifications

Marking position is reference example.

Assembly factory	KL (Additional factory)	Beijing (Existing factory)	Greatek (Existing factory)	ASEKH (Existing factory)
Blank products				
	1st row 9 characters: product name 2nd row - 3rd row 9 characters: Lot № 4th row -	1st row - 2nd row 9 characters: product name 3rd row - 4th row 7 characters: Lot №	1st row - 2nd row 9 characters: product name 3rd row - 4th row 7 characters: Lot №	1st row - 2nd row 9 characters: product name 3rd row - 4th row 7 characters: Lot №
ROM products				
	1st row 8 characters: product name 2nd row 3 characters: ROM code 3rd row 9 characters: Lot № 4th row -	1st row - 2nd row 8 characters: product name 3rd row 3 characters: ROM code 4th row 7 characters: Lot №	1st row - 2nd row 8 characters: product name 3rd row 3 characters: ROM code 4th row 7 characters: Lot №	1st row - 2nd row 8 characters: product name 3rd row 3 characters: ROM code 4th row 7 characters: Lot №

Marking photo

Marking position and character is reference example.

Assembly factory	KL (Additional factory)	Beijing (Existing factory)	Greatek (Existing factory)	ASEKH (Existing factory)
Overall photo				
Enlarged photo				

Actual colors may be different from ones in the photo.

4M changing points (Addition of assembly and sorting factory , Change of material)

Item	Check Result	Judgement
Machine	Changing at assembly and sorting. The machines are equivalent to present machines. There are production of similar products and we have already checked the additional products have no risk on the production.	No risk
Method	The same as current products.	No risk
Man	Using 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 existing products and have no risk.	No risk