

Product Change Notice (PCN)

Subject: Add Assembly and Sorting Site for RL78/L12 LQFP44pin Package Products

Publication Date: 2/13/2025

Effective Date: 6/18/2025

Revision Description:

Initial release

Description of Change:

Group name: RL78/L12

Target package: 10mm×10mm 0.8mm pitch 44pin LQFP

Additional Site: Renesas Semiconductor (Beijing) Co., Ltd. (Beijing)

Change items of Specifications

Item		Additional Site	Existing Site	Existing Site	Existing Site
Assembly Site		Beijing	KL	Greatek	ASEKH
Sorting Site		Beijing	KL	KYEC	Beijing or KYEC
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)	

* Site certified materials.

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

KL: Renesas Semiconductor KL Sdn. Bhd.

ASEKH: Advanced Semiconductor Engineering Inc.

Greatek: Greatek Electronics Inc.

KYEC: King Yuan Electronics Co., Ltd.

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

Affected Product List:

R5F10RF8AFP#10	R5F10RF8AFP#50	R5F10RF8AFP#70	R5F10RF8A***FP#10
R5F10RF8A***FP#30	R5F10RF8A***FP#50	R5F10RF8GFP#10	R5F10RF8GFP#50
R5F10RF8GFP#70	R5F10RF8G***FP#10	R5F10RF8G***FP#30	R5F10RF8G***FP#50
R5F10RFAAFP#10	R5F10RFAAFP#50	R5F10RFAAFP#70	R5F10RFAA***FP#10
R5F10RFAA***FP#30	R5F10RFAA***FP#50	R5F10RFAGFP#10	R5F10RFAGFP#50
R5F10RFAGFP#70	R5F10RFAG***FP#10	R5F10RFAG***FP#30	R5F10RFAG***FP#50
R5F10RFCAA01FP#30	R5F10RFCAA03FP#30	R5F10RFCAA05FP#10	R5F10RFCAA05FP#30
R5F10RFCAA08FP#10	R5F10RFCAA10FP#10	R5F10RFCAA10FP#30	R5F10RFCAA14FP#10
R5F10RFCAA14FP#30	R5F10RFCAA15FP#30	R5F10RFCAA18FP#10	R5F10RFCAA18FP#30
R5F10RFCAA19FP#10	R5F10RFCAA19FP#30	R5F10RFCAA20FP#10	R5F10RFCAA20FP#30
R5F10RFCAA21FP#10	R5F10RFCAA21FP#30	R5F10RFCAA23FP#10	R5F10RFCAA23FP#30
R5F10RFCAA24FP#10	R5F10RFCAA24FP#30	R5F10RFCAA25FP#10	R5F10RFCAA25FP#30
R5F10RFCAA26FP#10	R5F10RFCAA26FP#30	R5F10RFCAA27FP#10	R5F10RFCAA27FP#30
R5F10RFCAA29FP#10	R5F10RFCAA29FP#30	R5F10RFCAA30FP#10	R5F10RFCAA30FP#30
R5F10RFCAA31FP#10	R5F10RFCAA31FP#30	R5F10RFCAA33FP#30	R5F10RFCAA34FP#10
R5F10RFCAA35FP#10	R5F10RFCAA36FP#10	R5F10RFCAFP#10	R5F10RFCAFP#50
R5F10RFCAFP#70	R5F10RFCA***FP#10	R5F10RFCA***FP#30	R5F10RFCA***FP#50
R5F10RF CGFP#10	R5F10RF CGFP#50	R5F10RF CGFP#70	R5F10RF CG***FP#10
R5F10RF CG***FP#30	R5F10RF CG***FP#50		

“***” means ROM code

Reason for Change:

Stable supply for target group products.

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

Impact on Fit : No Impact
 Form : Refer to the “Appendix” for detail.
 Function : No Impact
 Quality : No Impact
 Reliability : No Impact

Product Identification:

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

Qualification Status: Available from 2/28/2024

Sample Availability Date: 4/1/2025

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).

Sample Part Number: R5F10RFCAFP#YK4

Device Material Declaration: Available upon request.

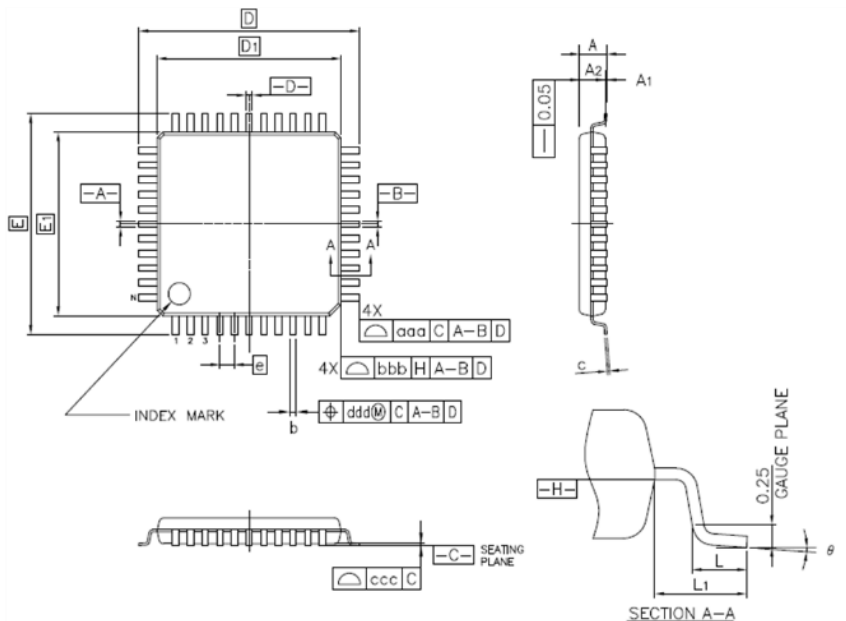
- Note:
1. Acknowledgement must be received by Renesas within 30 days or Renesas will consider the change as approved.
 2. If timely acknowledgement is provided by Customer, then Customer shall have 90 days from the date of receipt of this PCN to make any objections to this PCN. If Customer fails to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

Package Outline (Beijing)

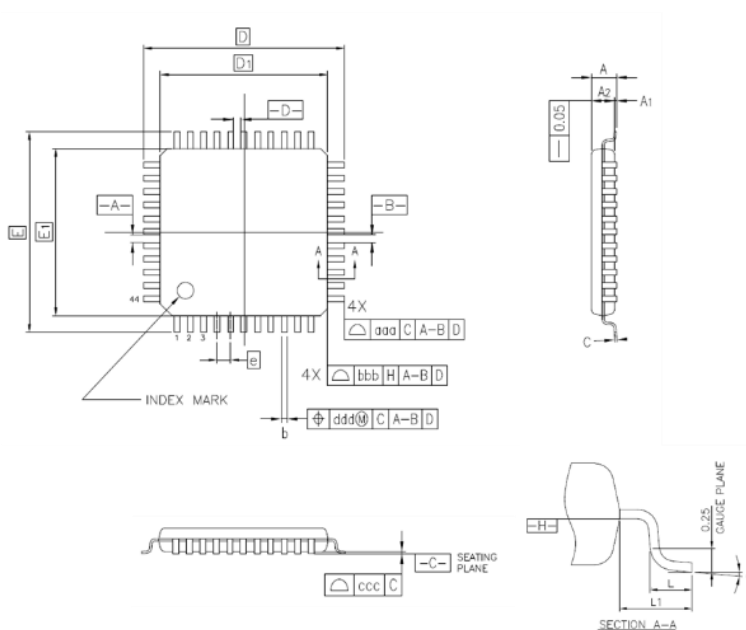
RENESAS Code : PLQP0044GF-A



Reference Symbol	Dimension in Millimeters		
	Min.	Nom.	Max.
A	—	—	1.70
A ₁	0.05	—	0.15
A ₂	1.35	1.40	1.45
D	12.00 BSC.		
D ₁	10.00 BSC.		
E	12.00 BSC.		
E ₁	10.00 BSC.		
N	—	44	—
e	0.80 BSC.		
b	0.30	0.37	0.45
c	0.09	—	0.20
e	0°	3.5°	8°
L	0.45	0.60	0.75
L ₁	1.00 REF.		
aaa	—	—	0.20
bbb	—	—	0.20
ccc	—	—	0.10
ddd	—	—	0.20

Package Outline (Greatek)

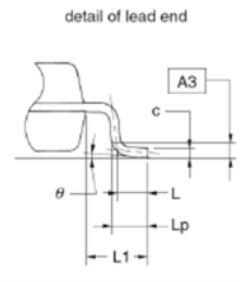
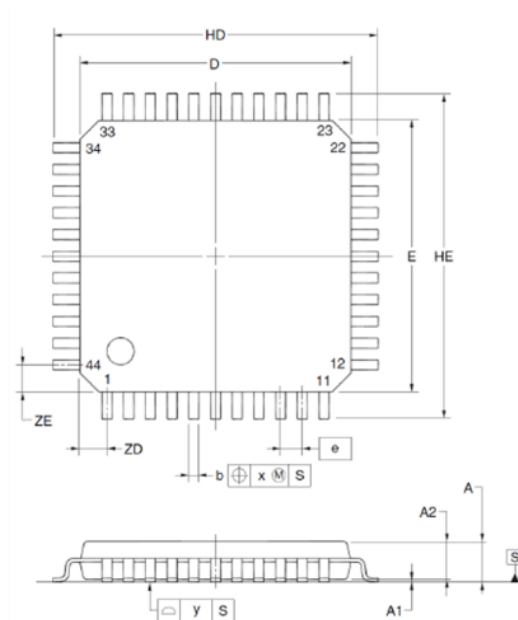
RENESAS Code : PLQP0044GE-A



Reference Symbol	Dimension in Millimeters		
	Min.	Nom.	Max.
A	—	—	1.60
A ₁	0.05	—	0.15
A ₂	1.35	1.40	1.45
D	—	12.00	—
D ₁	—	10.00	—
E	—	12.00	—
E ₁	—	10.00	—
N	—	44	—
e	—	0.80	—
b	0.30	0.37	0.45
c	0.09	—	0.20
e	0°	3.5°	7°
L	0.45	0.60	0.75
L ₁	—	1.00	—
aaa	—	—	0.20
bbb	—	—	0.20
ccc	—	—	0.10
ddd	—	—	0.20

Package Outline (KL)

RENESAS Code : PLQP0044GC-A

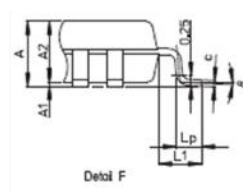
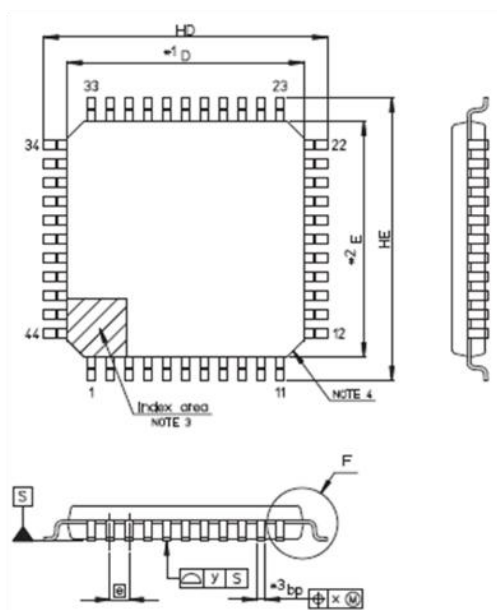


(UNIT:mm)

ITEM	DIMENSIONS
D	10.00±0.20
E	10.00±0.20
HD	12.00±0.20
HE	12.00±0.20
A	1.60 MAX.
A1	0.10±0.05
A2	1.40±0.05
A3	0.25
b	0.37 ^{+0.08} _{-0.07}
c	0.145 ^{+0.055} _{-0.045}
L	0.50
Lp	0.60±0.15
L1	1.00±0.20
θ	3°+5° -3°
e	0.80
x	0.20
y	0.10
ZD	1.00
ZE	1.00

Package Outline (ASEKH)

RENESAS Code : PLQP0044GC-D



Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
D	9.8	10.0	10.2
E	9.8	10.0	10.2
A2	—	1.4	—
HD	11.8	12.0	12.2
HE	11.8	12.0	12.2
A	—	—	1.6
A1	0.05	—	0.15
bp	0.22	0.37	0.45
c	0.09	—	0.20
θ	0°	3.5°	8°
e	—	0.80	—
x	—	—	0.20
y	—	—	0.10
Lp	0.45	0.6	0.75
L1	—	1.0	—

Dimension Comparison

Beijing Symbol	PLQP0044GF-A			Greatek Symbol	PLQP0044GE-A			KL Symbol	PLQP0044GC-A			ASEKH Symbol	PLQP0044GC-D		
	Dimension in Millimeters				Dimension in Millimeters				Dimension in Millimeters				Dimension in Millimeters		
	Min	Nom	Max		Min	Nom	Max		Min	Nom	Max		Min	Nom	Max
A	-	-	1.70	A	-	-	1.60	A	-	-	1.60	A	-	-	1.60
A1	0.05	-	0.15	A1	0.05	-	0.15	A1	0.05	0.10	0.15	A1	0.05	-	0.15
A2	1.35	1.40	1.45	A2	1.35	1.40	1.45	A2	1.35	1.40	1.45	A2	-	1.40	-
D	-	12.00	-	D	-	12.00	-	HD	11.80	12.00	12.20	HD	11.80	12.00	12.20
D1	-	10.00	-	D1	-	10.00	-	D	9.80	10.00	10.20	D	9.80	10.00	10.20
E	-	12.00	-	E	-	12.00	-	HE	11.80	12.00	12.20	HE	11.80	12.00	12.20
E1	-	10.00	-	E1	-	10.00	-	E	9.80	10.00	10.20	E	9.80	10.00	10.20
N	-	44	-	N	-	44	-	-	-	-	-	-	-	-	-
e	-	0.80	-	e	-	0.80	-	e	-	0.80	-	e	-	0.80	-
b	0.30	0.37	0.45	b	0.30	0.37	0.45	b	0.30	0.37	0.45	bd	0.22	0.37	0.45
c	0.09	-	0.20	c	0.09	-	0.20	c	0.10	0.145	0.20	c	0.09	-	0.20
θ	0°	3.5°	8°	θ	0°	3.5°	7°	θ	0°	3°	8°	θ	0°	3.5°	8°
L	0.45	0.60	0.75	L	0.45	0.60	0.75	Lp	0.45	0.60	0.75	Lp	0.45	0.60	0.75
L1	-	1.00	-	L1	-	1.00	-	L1	0.80	1.00	1.20	L1	-	1.00	-
aaa	-	-	0.20	aaa	-	-	0.20	-	-	-	-	-	-	-	-
bbb	-	-	0.20	bbb	-	-	0.20	-	-	-	-	-	-	-	-
ccc	-	-	0.10	ccc	-	-	0.10	y	-	0.10	-	y	-	0.10	-
ddd	-	-	0.20	ddd	-	-	0.20	x	-	0.20	-	x	-	0.20	-

Package Structure Image

Package Section and Die Pad Shape is a Reference Example.

Assembly Site	PKG Cross Section	Die Pad Shape
Additional Site		<p>Beijing</p>
Existing Site		<p>KL / Greatek / ASEKH</p>

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

Marking Specifications

Marking position is reference example.

Product	Beijing (Additional Site)	KL (Existing Site)	Greatek (Existing Site)	ASEKH (Existing Site)
Blank Products				
	1st row - 2nd row 9 characters: product name 3rd row 7 characters: Lot №	1st row 9 characters: product name 2nd row - 3rd row 9 characters: Lot №	1st row - 2nd row 9 characters: product name 3rd row 7 characters: Lot №	1st row - 2nd row 9 characters: product name 3rd row 7 characters: Lot №
ROM Products				
	1st row 3 characters: ROM code 2nd row 8 characters: product name 3rd row 7 characters: Lot №	1st row 8 characters: product name 2nd row 3 characters: ROM code 3rd row 9 characters: Lot №	1st row 3 characters: ROM code 2nd row 8 characters: product name 3rd row 7 characters: Lot №	1st row 3 characters: ROM code 2nd row 8 characters: product name 3rd row 7 characters: Lot №

* Marking Specification of Beijing Product is as same as Geatek and ASEKH one.

Marking Photo

Marking Position and Characters are Reference Example.
The Color Varies depending on the Shooting Conditions.

Assembly Site	Beijing (Additional Site)	KL (Existing Site)	Greatek (Existing Site)	ASEKH (Existing Site)
Overall Photo				
Enlarged Photo				

4M Changing Points (Addition of Assembly and Sorting Site , 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