PCN# : [MCP-AC-21-0014]

Product Change Notice (PCN)

Subject: **Assembly factory addition and assembly materials change for RL78/L1A, L1C LQFP package products**

Publication Date: 1/21/2022

Effective Date: 4/1/2022

Revision Description:

Initial release.

Description of Change:

PKG type		Products Group	
		L1A	L1C
LFQFP	14x14mm 100pin	√	√

Greatek Electronics Inc., (Greatek), King Yuan ELECTRONICS CO., LTD (KYEC) addition and T&R consolidation.

Renesas Semiconductor (Beijing) Co.,Ltd (RSB) lead frame and T&R consolidation.

"Note: Greatek/KYEC products are only full carton products and T&R products."

"Refer to the difference specification for details."

MCP-AB-22-0014_RL78_L1AL1C_LQFP_Difference specification1

MCP-AB-22-0015_RL78_L1AL1C_LQFP_Difference specification2_LF

MCP-AB-21-0086_RL78_L1AL1C_LQFP_Difference specification3_TR

Description of change point case

Before change			After change		
WP&WT	ASSY	FT	WP&WT	ASSY	FT
Kawashiri	RSB	RSB	Kawashiri	RSB** **Greatek***	RSB** **KYEC***

Note: Description for change point.

"Bold: Factory addition"

*: Some products add Greatek/KYEC and some do not.

**: Consolidate the lead frame and T&R.

Affected Product List:

Refer to attached file "PN_list_RL78 _L1AL1C_LQFP".

Reason for Change:

Stable supply for RL78 series LQFP products.

Impact on specifications, characteristics, quality & reliability:

No impact.

Product Identification:

Possible to confirm the production history data from the packing label or trace code.

Qualification Status: We will prepare by 2/28/2022.

Sample Availability Date: 4/1/2022

Device Material Declaration: Contact Renesas sales, distributor, or agency.

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.

			Addition for Gretek	Change for RSB (Existing)		Applicable difference document			Reliability report	
Booking PN	Package	Group	Addition	LF consolidation	T&R width consolidation	Greatek addition	LF change	Tape width change		
R5F11MPEAFB#10	14mm x 14mm 100pin	RL78/L1A	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F11MPEAFB#30	14mm x 14mm 100pin	RL78/L1A		Y			Difference specification 2			MCR-22-0111
R5F11MPEAFB#50	14mm x 14mm 100pin	RL78/L1A	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F11MPFAFB#10	14mm x 14mm 100pin	RL78/L1A	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F11MPFAFB#30	14mm x 14mm 100pin	RL78/L1A		Y			Difference specification 2			MCR-22-0111
R5F11MPFAFB#50	14mm x 14mm 100pin	RL78/L1A	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F11MPGAFB#10	14mm x 14mm 100pin	RL78/L1A	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F11MPGAFB#30	14mm x 14mm 100pin	RL78/L1A		Y			Difference specification 2			MCR-22-0111
R5F11MPGAFB#50	14mm x 14mm 100pin	RL78/L1A	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F110PEAFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F110PEAFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F110PEAFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F110PEGFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F110PEGFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F110PEGFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F110PFAFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F110PFAFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F110PFAFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F110PFGFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F110PFGFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F110PFGFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F110PGAFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F110PGAFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F110PGAFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F110PGGFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F110PGGFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F110PGGFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F110PHAFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F110PHAFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F110PHAFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F110PHGFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F110PHGFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F110PHGFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F110PJAFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F110PJAFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F110PJAFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F110PJGFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F110PJGFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F110PJGFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F111PEAFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F111PEAFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F111PEAFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F111PEGFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F111PEGFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F111PEGFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F111PFAFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F111PFAFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F111PFAFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F111PFGFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F111PFGFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F111PFGFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
R5F111PGAFB#10	14mm x 14mm 100pin	RL78/L1C	Y	Y		Difference specification 1	Difference specification 2		MCR-22-0110	MCR-22-0111
R5F111PGAFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F111PGAFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
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R5F111PGGFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F111PGGFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111
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R5F111PJGFB#30	14mm x 14mm 100pin	RL78/L1C		Y			Difference specification 2			MCR-22-0111
R5F111PJGFB#50	14mm x 14mm 100pin	RL78/L1C	Y	Y	Y	Difference specification 1	Difference specification 2	Difference specification 3	MCR-22-0110	MCR-22-0111

Difference of specification 1 (RL78 family LQFP products) 14x14mm 0.5mm pitch 100pin

Target products: RL78/L1A, RL78/L1C

January 11. 2022

MCU PRODUCT MARKETING DEPARTMENT
MCU DEVICE SOLUTION BUSINESS DIVISION
IoT AND INFRASTRUCTURE BUSINESS UNIT
RENESAS ELECTRONICS CO., LTD.

Ver.1.0

MCP-AB-22-0014

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(Rev. 5.0-1 October 2020)

DIFFERENCE OUTLINE

1. Targets:

   Products : RL78/L1A, RL78/L1C
   Assembly factory : Renesas Semiconductor (Beijing) Co.,Ltd (RSB)
   Sorting factory : Renesas Semiconductor (Beijing) Co.,Ltd (RSB)
   Package : 14x14mm 0.5mm pitch 100pin LFQFP

2. Additional assembly and sorting factory

   Assembly factory : Greatek Electronics Inc. (Greatek)
   Sorting factory : King Yuan ELECTRONICS CO., LTD (KYEC)

3. Assembly material:

   Lead frame, Die mount paste and Mold resin are used certificated materials.

4. Package outline

   There is no change in footprint for additional factory products.

   Please refer to the package outline drawing and dimension comparison for the external dimensions.

DIFFERENCE OUTLINE

5. Storage conditions after opening the moisture proof packaging:

   The storage conditions for Greatek products after opening the moisture-proof bag comply with JEDEC standards.

   Existing products(RSB) : 30°C/70%RH/ within 168hr

   Additional products(Greatek/KYEC) : 30°C/60%RH/ within 168hr (Confirming to the JEDEC standard)

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

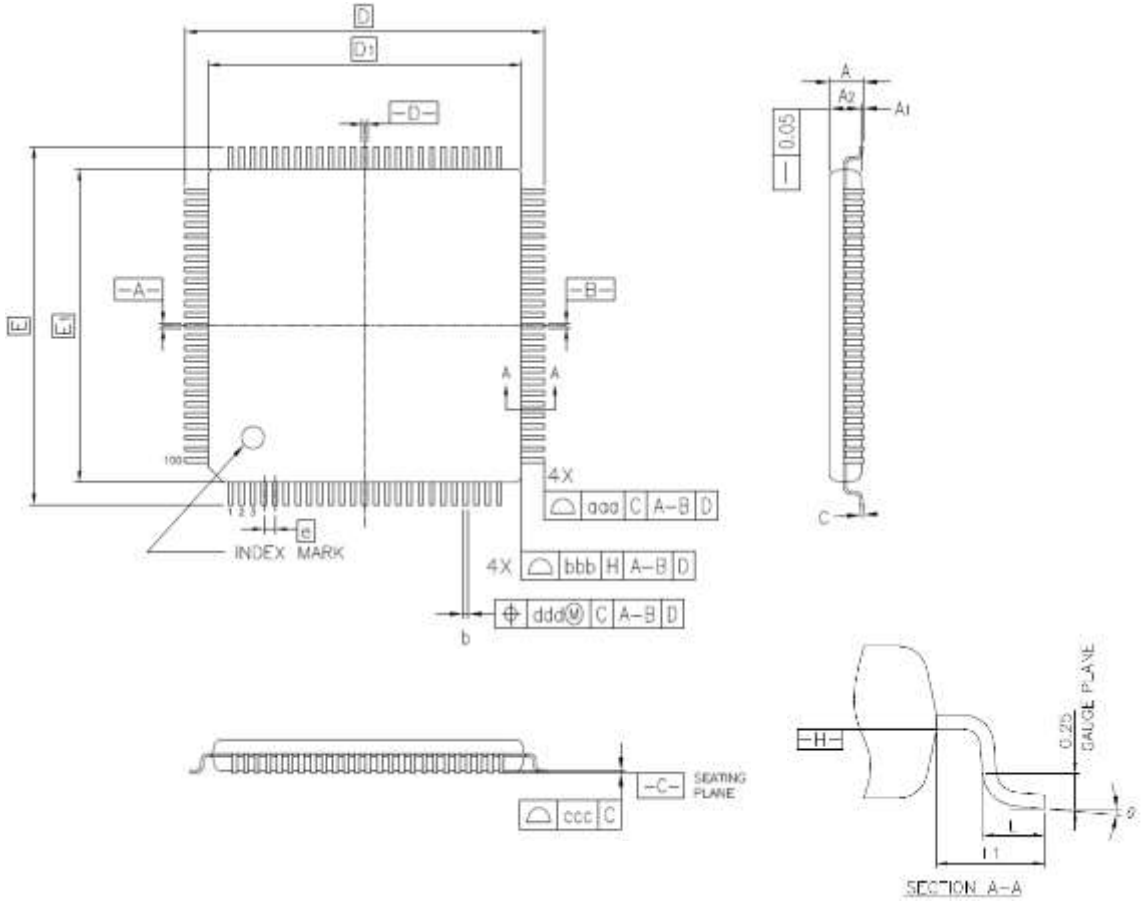
Difference of specification

Item		Additional factory	Existing factory
Assembly factory		Greatek	RSB
Sorting factory		KYEC	RSB
Package	Outline	There are differences(Refer to pages 6 to 8)	
Lead frame	Material	No difference	
	Inner pattern	There are differences(Refer to page 9)	
Die mount	Material	Ag epoxy paste D *	Ag epoxy paste A *
Bonding wire	Material	No difference; Cu (Pd coating)	
Resin	Material	Epoxy resin D * (halogen-free)	Epoxy resin A * (halogen-free)
Plating	Material	No difference	
Marking	Font	There are differences(Refer to page 10)	
	Digit number	No difference	
Packing	Tray/ Emboss tape	No difference	
Storage conditions	after opening	30°C/60%RH/ within168hr	30°C/70%RH/ within 168hr

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

14mm x 14mm 0.5mm pitch 100pin LFQFP Package outline (Greatek)

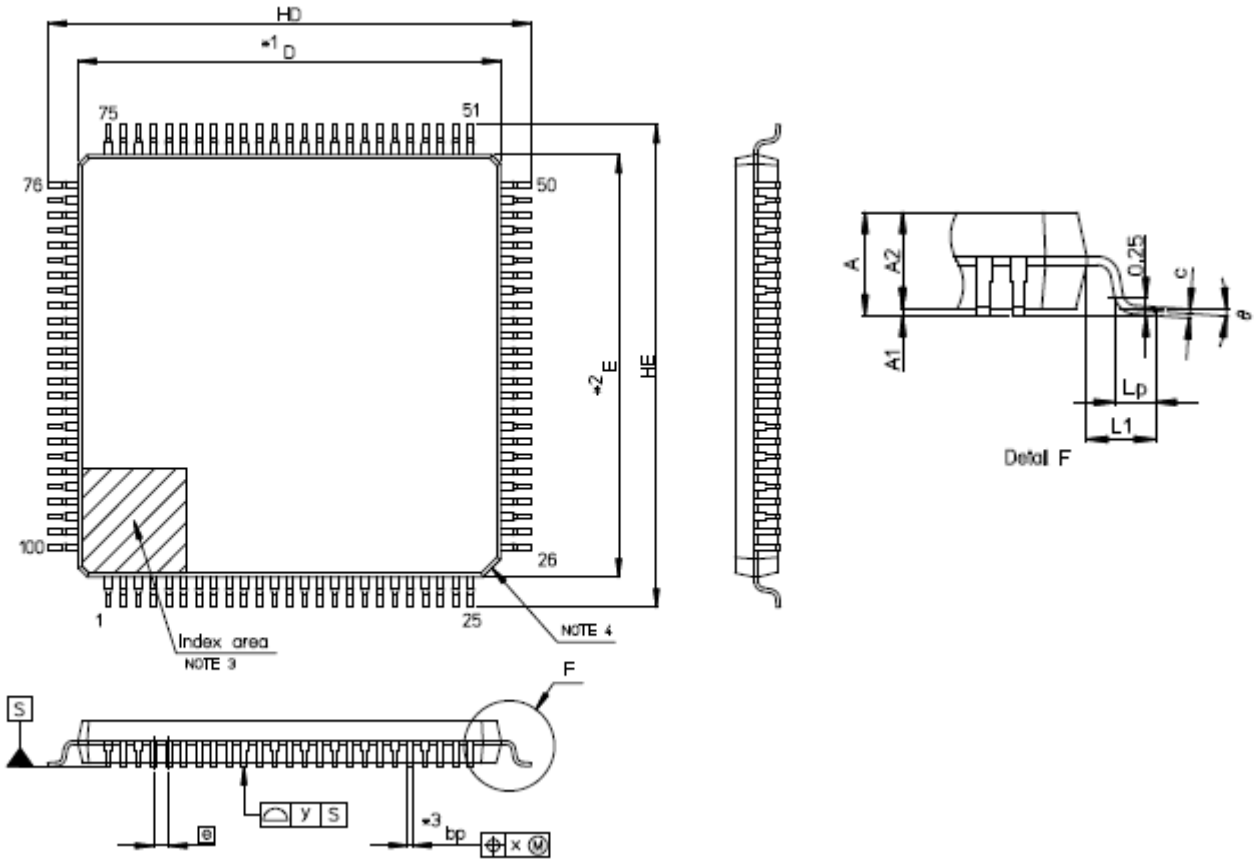
RENESAS Code : PLQP0100KP-A



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	–	16.00	–
D1	–	14.00	–
E	–	16.00	–
E_1	–	14.00	–
N	–	100	–
e	–	0.50	–
b	0.17	0.22	0.27
c	0.09	–	0.20
θ	0°	3.5°	7°
L	0.45	0.60	0.75
L_1	–	1.00	–
aaa	–	–	0.20
bbb	–	–	0.20
ccc	–	–	0.08
ddd	–	–	0.08

14mm x 14mm 0.5mm pitch 100pin LFQFP Package outline (RSB)

RENESAS Code : PLQP0100KB-B



Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
D	13.9	14.0	14.1
E	13.9	14.0	14.1
A2	—	1.4	—
HD	15.8	16.0	16.2
HE	15.8	16.0	16.2
A	—	—	1.7
A1	0.05	—	0.15
bp	0.15	0.20	0.27
c	0.09	—	0.20
θ	0°	3.5°	8°
e	—	0.5	—
x	—	—	0.08
y	—	—	0.08
Lp	0.45	0.6	0.75
L1	—	1.0	—

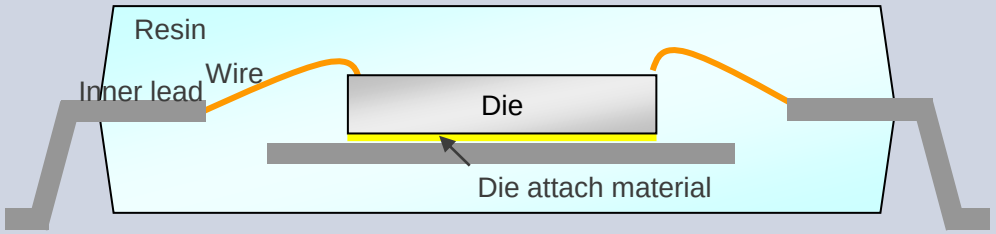
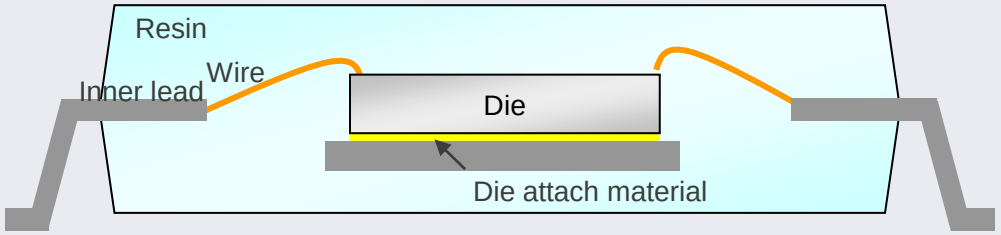
Dimension comparison: 14mm x 14mm 0.5mm pitch 100pin LFQFP

Greatek package symbols complied JEDEC standard.

Greatek Symbol	14x14mm 100pin LQFP PLQP0100KP-A			RSB Symbol	14x14mm 100pin LQFP PLQP0100KB-B		
	Dimension in Millimeters				Dimension in Millimeters		
	Min	Nom	Max		Min	Nom	Max
A	-	-	1.60	A	-	-	1.70
A1	0.05	-	0.15	A1	0.05	-	0.15
A2	1.35	1.40	1.45	A2	-	1.40	-
D	-	16.00	-	HD	15.80	16.00	16.20
D1	-	14.00	-	D	13.90	14.00	14.10
E	-	16.00	-	HE	15.80	16.00	16.20
E1	-	14.00	-	E	13.90	14.00	14.10
N	-	100	-	-	-	-	-
e	-	0.50	-	e	-	0.50	-
b	0.17	0.22	0.27	bp	0.15	0.20	0.27
c	0.09	-	0.20	c	0.09	-	0.20
θ	0°	3.5°	7°	θ	0°	3.5°	8°
L	0.45	0.60	0.75	Lp	0.45	0.60	0.75
L1	-	1.00	-	L1	-	1.000	-
aaa	-	-	0.20	-	-	-	-
bbb	-	-	0.20	-	-	-	-
ccc	-	-	0.08	y	-	-	0.08
ddd	-	-	0.08	x	-	-	0.08

Package structure image

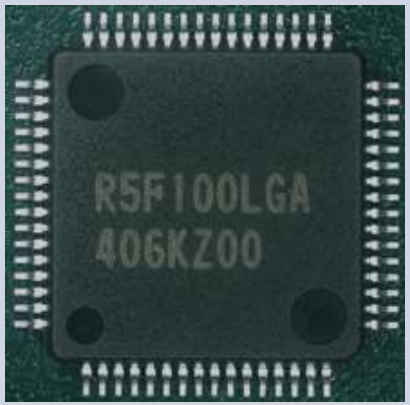
* Package Section and die pad shape is a reference example.

Assembly Line	PKG cross section	Die pad shape
Additional factory		 Greatek
Existing factory		 RSB

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

Marking visibility

※Character is reference example

Assembly Line	Greatek (Additional factory)	RSB (Existing factory)
Overall photo		
Enlarged 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**

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Difference of specification 2 (RL78 family LQFP products) 14x14mm 0.5mm pitch 100pin

Target products: RL78/L1A, RL78/L1C

January 11. 2022

MCU PRODUCT MARKETING DEPARTMENT
MCU DEVICE SOLUTION BUSINESS DIVISION
IoT AND INFRASTRUCTURE BUSINESS UNIT
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MCP-AB-22-0015

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(Rev. 5.0-1 October 2020)

Difference outline

1. Targets:

Products	:	RL78/L1A, RL78/L1C
Assembly factory	:	Renesas Semiconductor (Beijing) Co.,Ltd (RSB)
Sorting factory	:	Renesas Semiconductor (Beijing) Co.,Ltd (RSB)
Package	:	14x14mm 0.5mm pitch 100pin LFQFP

2. Difference point

   Assembly material consolidation: Lead frame (Stabilize supply through consolidation)

- Specification and characteristics of product:

  No change
- Quality and reliability

  No change

Difference of specification

Item		After consolidated	Current
Target assembly factory		RSB	
Target sorting factory		RSB	
Package	Outline	No difference	
Lead frame	Material	No difference	
	Inner pattern	There are differences (Refer to page 5)	
Die mount	Material	No difference	
Bonding wire	Material	No difference	
Resin	Material	No difference	
Plating	Material	No difference	
Marking	Font	No difference	
	Digit number	No difference	

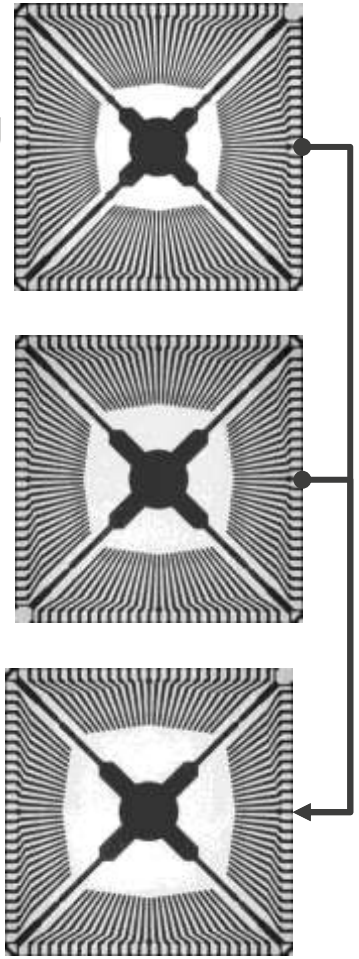
14×14mm 0.5mm pitch 100pin LFQFP lead frame

Consolidate into certified and proven lead frames.

Frame A
- RL78/G13
- RL78/G14 other than the following
- RL78/I1B
- RL78/L1A
- RL78/L1C

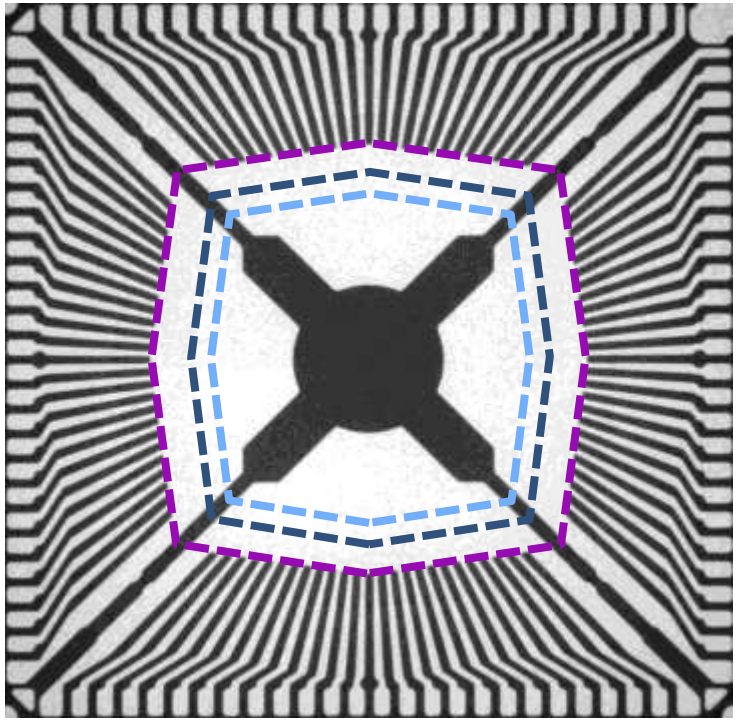
Frame B
- RL78/G13A
- RL78/G14 :
  - R5F104PK**FB
  - R5F104PL**FB
- RL78/I1C

Frame C
- Used in other product groups such as RX family



Consolidated

After consolidated **“Frame C”**



: Frame A

: Frame C

: Frame B

Efforts for changing lead frames

The change points are verified and there is no problem.

Change point	Failure mode	Cause	Response at startup	Judgement
Lead frame change	Assembly failure	Positional deviation	Mass productivity has been evaluated for similar products with the same PKG outline.	No problem
	Impact on reliability	Delamination after reflow	Mass productivity has been evaluated for similar products with the same PKG outline.	No problem

4M change points (Assembly material change)

Item	Check Result	Judgement
Machine	The same as existing products.	**No risk**
Method	The same as existing products.	**No risk**
Operator	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 existing products and have no risk.	**No risk**

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Difference of specification 3 (RL78 family LQFP products) 14x14mm 0.5mm pitch 100pin

Target products: RL78/L1A, RL78/L1C

January 11. 2022

MCU PRODUCT MARKETING DEPARTMENT
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(Rev. 5.0-1 October 2020)

Difference outline

- Target products:
  RL78/L1A, RL78/L1C
- Assembly factory
  Renesas Semiconductor (Beijing) Co.,Ltd (RSB)
  Greatek Electronics Inc.（Greatek）
- Sorting factory
  Renesas Semiconductor (Beijing) Co.,Ltd (RSB)
  King Yuan Electronics Co., Ltd. （KYEC）
- Target package
  14x14mm 0.5mm pitch 100pin LFQFP
- Difference point
  Packing material: We will change the embossed carrier tape width from 32mm width to 24mm width and consolidate it into the 24mm width packaging form.

➢ Specification and characteristics of product:
  No change

➢ Quality and reliability
  No change

Difference outline

1. Targets:

   Products : RL78/L1A, RL78/L1C

   Assembly factory : Renesas Semiconductor (Beijing) Co.,Ltd (RSB)

   Greatek Electronics Inc.（Greatek）

   Sorting factory : Renesas Semiconductor (Beijing) Co.,Ltd (RSB)

   King Yuan Electronics Co., Ltd.（KYEC）

   Package : 14x14mm 0.5mm pitch 100pin LFQFP

2. Difference point

   Packing material : Change the emboss carrier tape width from 32mm width to 24mm width and consolidate to the 24mm width packing form.

- Specification and characteristics of product:

  No change

- Quality and reliability

  No change

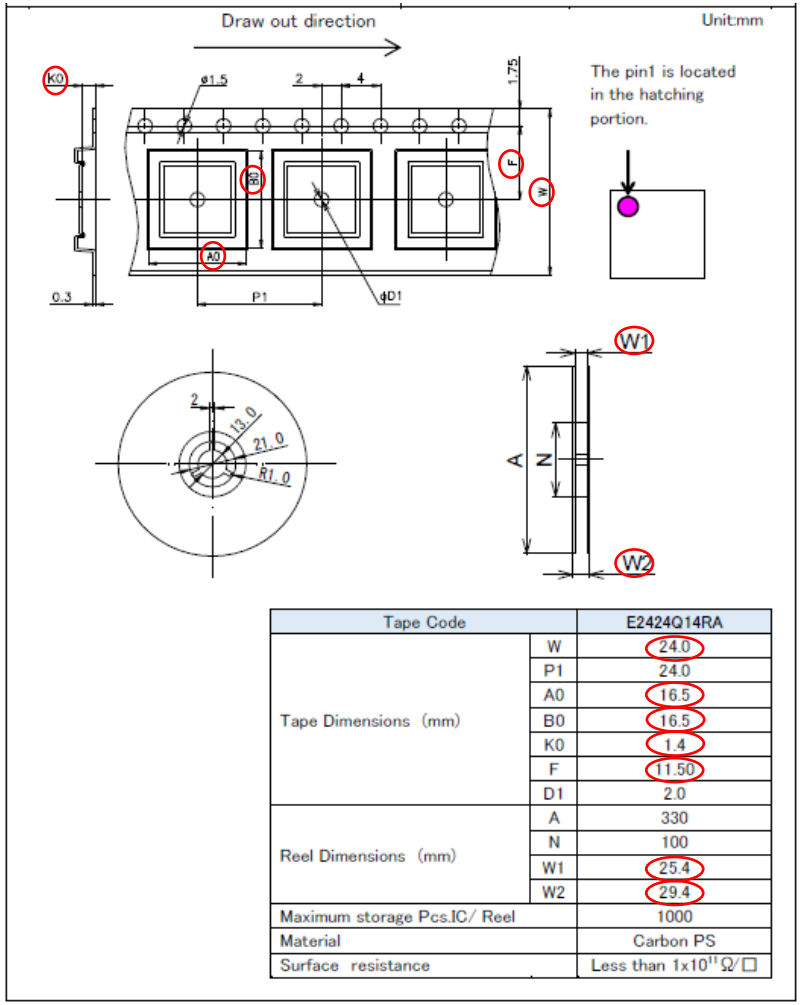
DIFFERENCES IN PACKING SPECIFICATIONS

Material	Item	New	Current
Carrier tape	Tape name	E2424Q14RA	MTE3224H-100P6Q-A
	Feed hole	**Single side hole**	Both sides hole
	Tape width	**24mm**	32mm
	Tape thickness	0.3mm	0.3mm
	Pocket size	**16.5x16.5**	17.3x17.3
	Pitch between pockets	24mm	24mm
	Material	PS	PS
Reel	Reel diameter	330mm	330mm
	Core diameter	100mm	100mm
	Reel width	**24mm**	32mm
Cover tape	Tape width	**21.3mm**	25.5mm

* RL78/L1A and RL78/L1C 14x14mm 100pin products are target products.
Other RL78 14x14mm products are using the carrier tape after consolidation.

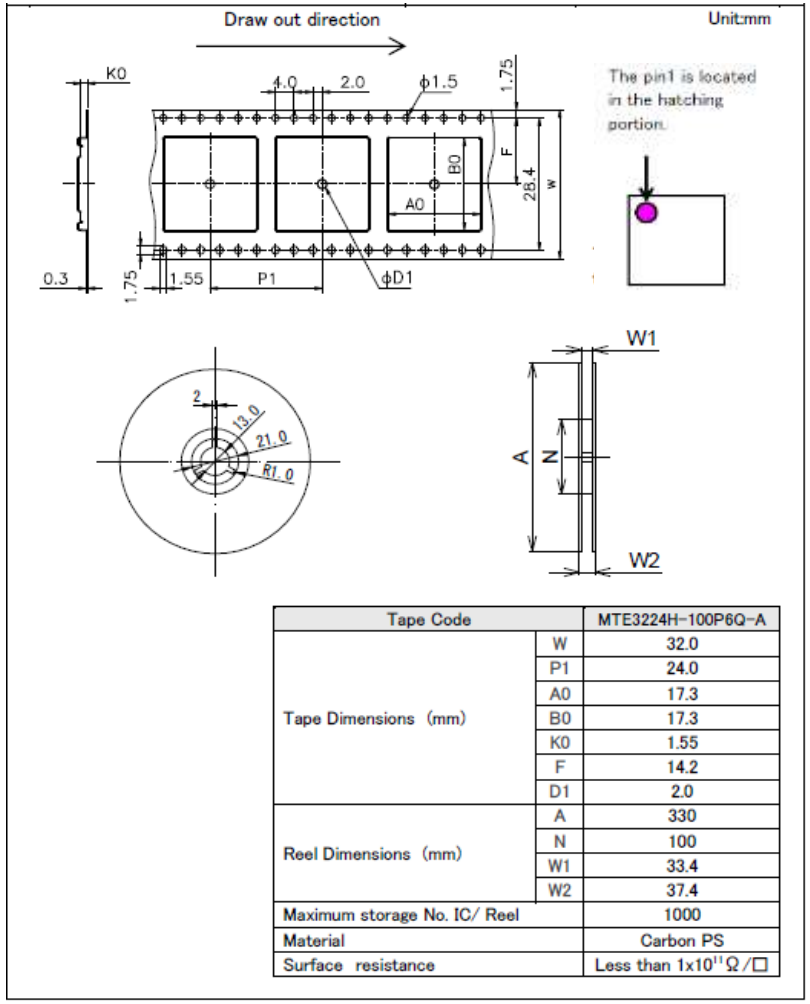
14x14mm 0.5mm pitch 100pin LFQFP T&R drawing comparison

New（Width:24mm）



Tape Code		E2424Q14RA
Tape Dimensions （mm）	W	24.0
	P1	24.0
	A0	16.5
	B0	16.5
	K0	1.4
	F	11.50
	D1	2.0
Reel Dimensions （mm）	A	330
	N	100
	W1	25.4
	W2	29.4
Maximum storage Pcs.IC/ Reel		1000
Material		Carbon PS
Surface resistance		Less than $1x10^{11}\Omega/\square$

Current (Width:32mm)



Tape Code		MTE3224H-100P6Q-A
Tape Dimensions （mm）	W	32.0
	P1	24.0
	A0	17.3
	B0	17.3
	K0	1.55
	F	14.2
	D1	2.0
Reel Dimensions （mm）	A	330
	N	100
	W1	33.4
	W2	37.4
Maximum storage No. IC/ Reel		1000
Material		Carbon PS
Surface resistance		Less than $1x10^{11}\Omega/\square$

4M changing points (Packing material change)

Item	Check Result	Judgement
Machine	The same as existing products.	**No risk**
Method	The same as existing products.	**No risk**
Operator	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 existing products and have no risk.	**No risk**

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