

Product Change Notice (PCN)

Subject: Wafer-fabrication and chip-assembly factories addition for RL78/G23 QFN and LQFP package products

Publication Date: 6/30/2025

Effective Date: 3/31/2026

Revision Description: Initial release

Description of Change:

	Current fab			Additional fabs (parallel production)		
	Wafer fab	Assembly	Sort	Wafer fab	Assembly	Sort
QFN Case1	Kawashiri	Greatek	KYEC	Kawashiri PSMC	Greatek	KYEC
LQFP 44pin Case2a	Kawashiri	KL	KL	Kawashiri	KL	KL
				PSMC	Greatek	KYEC
LQFP others* Case2b	Kawashiri	BJ	BJ	Kawashiri	BJ	BJ
				PSMC	Greatek	KYEC

Factory names indicated as **BOLD** letters will be added on the parallel production path.

“Kawashiri” means Kawashiri-factory of Renesas Semiconductor Manufacturing Co., Ltd.

“KL” means Renesas Semiconductor KL Sdn. Bhd. “BJ” means Renesas Semiconductor (Beijing) Co., Ltd.

1)Case1: QFN package products

Wafer fab: Powerchip Semiconductor Manufacturing Corporation (**PSMC**) addition

2)Case2: LQFP package products (please see “Appendix” for the details)

Case2a: 44pin LQFP (assembly in KL)

Case2b: [*] 32/48/64/80 LQFP (assembly in BJ)

Wafer fab: Powerchip Semiconductor Manufacturing Corporation (**PSMC**) addition

Assembly: Greatek Electronics Inc. (Greatek) addition

Sort: King Yuan Electronics Corp. (KYEC) addition

Affected Product List:

Product P/N	Package	Product P/N	Package	Product P/N	Package
R7F100GMJ3CFB#BA0	80pin LQFP	R7F100GEJ3CNP#UA0	40pin QFN	R7F100GGJ2DFB#HA0	48pin LQFP
R7F100GMJ3CFB#UA0	80pin LQFP	R7F100GEJ3CNP#HA0	40pin QFN	R7F100GGH2DFB#BA0	48pin LQFP
R7F100GMJ3CFB#HA0	80pin LQFP	R7F100GEH3CNP#BA0	40pin QFN	R7F100GGH2DFB#UA0	48pin LQFP
R7F100GMH3CFB#BA0	80pin LQFP	R7F100GEH3CNP#UA0	40pin QFN	R7F100GGH2DFB#HA0	48pin LQFP
R7F100GMH3CFB#UA0	80pin LQFP	R7F100GEH3CNP#HA0	40pin QFN	R7F100GGJ2DNP#BA0	48pin QFN
R7F100GMH3CFB#HA0	80pin LQFP	R7F100GBJ3CFP#BA0	32pin LQFP	R7F100GGJ2DNP#UA0	48pin QFN
R7F100GMG3CFB#BA0	80pin LQFP	R7F100GBJ3CFP#UA0	32pin LQFP	R7F100GGJ2DNP#HA0	48pin QFN
R7F100GMG3CFB#UA0	80pin LQFP	R7F100GBJ3CFP#HA0	32pin LQFP	R7F100GGH2DNP#BA0	48pin QFN

R7F100GMG3CFB#HA0	80pin LQFP	R7F100GBH3CFP#BA0	32pin LQFP	R7F100GGH2DNP#UA0	48pin QFN
R7F100GLJ3CFB#BA0	64pin LQFP	R7F100GBH3CFP#UA0	32pin LQFP	R7F100GGH2DNP#HA0	48pin QFN
R7F100GLJ3CFB#UA0	64pin LQFP	R7F100GBH3CFP#HA0	32pin LQFP	R7F100GFJ2DFP#BA0	44pin LQFP
R7F100GLJ3CFB#HA0	64pin LQFP	R7F100GBJ3CNP#BA0	32pin QFN	R7F100GFJ2DFP#UA0	44pin LQFP
R7F100GLH3CFB#BA0	64pin LQFP	R7F100GBJ3CNP#UA0	32pin QFN	R7F100GFJ2DFP#HA0	44pin LQFP
R7F100GLH3CFB#UA0	64pin LQFP	R7F100GBJ3CNP#HA0	32pin QFN	R7F100GFH2DFP#BA0	44pin LQFP
R7F100GLH3CFB#HA0	64pin LQFP	R7F100GBH3CNP#BA0	32pin QFN	R7F100GFH2DFP#UA0	44pin LQFP
R7F100GGJ3CFB#BA0	48pin LQFP	R7F100GBH3CNP#UA0	32pin QFN	R7F100GFH2DFP#HA0	44pin LQFP
R7F100GGJ3CFB#UA0	48pin LQFP	R7F100GBH3CNP#HA0	32pin QFN	R7F100GEJ2DNP#BA0	40pin QFN
R7F100GGJ3CFB#HA0	48pin LQFP	R7F100GMJ2DFB#BA0	80pin LQFP	R7F100GEJ2DNP#UA0	40pin QFN
R7F100GGH3CFB#BA0	48pin LQFP	R7F100GMJ2DFB#UA0	80pin LQFP	R7F100GEJ2DNP#HA0	40pin QFN
R7F100GGH3CFB#UA0	48pin LQFP	R7F100GMJ2DFB#HA0	80pin LQFP	R7F100GEH2DNP#BA0	40pin QFN
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R7F100GGJ3CNP#BA0	48pin QFN	R7F100GMH2DFB#UA0	80pin LQFP	R7F100GEH2DNP#HA0	40pin QFN
R7F100GGJ3CNP#UA0	48pin QFN	R7F100GMH2DFB#HA0	80pin LQFP	R7F100GBJ2DFP#BA0	32pin LQFP
R7F100GGJ3CNP#HA0	48pin QFN	R7F100GMG2DFB#BA0	80pin LQFP	R7F100GBJ2DFP#UA0	32pin LQFP
R7F100GGH3CNP#BA0	48pin QFN	R7F100GMG2DFB#UA0	80pin LQFP	R7F100GBJ2DFP#HA0	32pin LQFP
R7F100GGH3CNP#UA0	48pin QFN	R7F100GMG2DFB#HA0	80pin LQFP	R7F100GBH2DFP#BA0	32pin LQFP
R7F100GGH3CNP#HA0	48pin QFN	R7F100GLJ2DFB#BA0	64pin LQFP	R7F100GBH2DFP#UA0	32pin LQFP
R7F100GFJ3CFP#BA0	44pin LQFP	R7F100GLJ2DFB#UA0	64pin LQFP	R7F100GBH2DFP#HA0	32pin LQFP
R7F100GFJ3CFP#UA0	44pin LQFP	R7F100GLJ2DFB#HA0	64pin LQFP	R7F100GBJ2DNP#BA0	32pin QFN
R7F100GFJ3CFP#HA0	44pin LQFP	R7F100GLH2DFB#BA0	64pin LQFP	R7F100GBJ2DNP#UA0	32pin QFN
R7F100GFH3CFP#BA0	44pin LQFP	R7F100GLH2DFB#UA0	64pin LQFP	R7F100GBJ2DNP#HA0	32pin QFN
R7F100GFH3CFP#UA0	44pin LQFP	R7F100GLH2DFB#HA0	64pin LQFP	R7F100GBH2DNP#BA0	32pin QFN
R7F100GFH3CFP#HA0	44pin LQFP	R7F100GGJ2DFB#BA0	48pin LQFP	R7F100GBH2DNP#UA0	32pin QFN
R7F100GEJ3CNP#BA0	40pin QFN	R7F100GGJ2DFB#UA0	48pin LQFP	R7F100GBH2DNP#HA0	32pin QFN

Reason for Change:

Stable production supply for RL78/G23, QFN/LQFP products.

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

No impact except slight outline differences.

Product Identification:

Enable via the production history data through the packing label or of the trace code.

Qualification Status: to be provided by 11/30/2025

Sample Availability Date: 10/1/2025

ES samples will be provided for functionality check where there is no functionality difference between ES sample and MP version.

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.
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Appendix

■LQFP products (Case2) differences

Differences

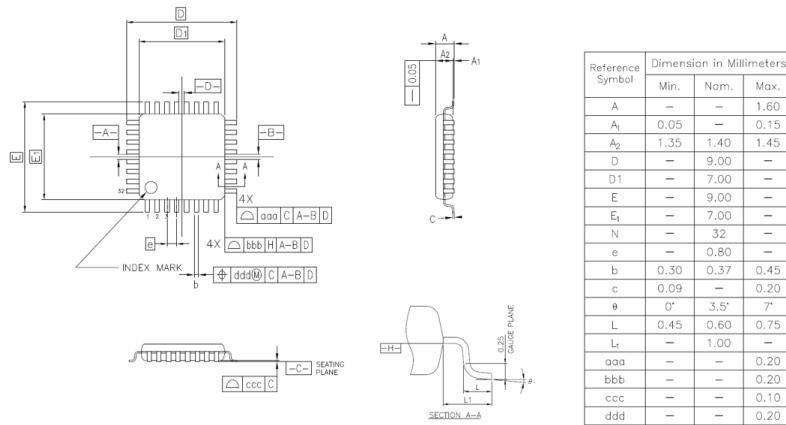
Items		Additional factory	Current
Wafer process		PSMC	Kawashiri
Assembly		Greatek	BJ, KL
Sort		KYEC	BJ, KL
Package	Outline	Slight differences (see below)	
Lead frame	Material	No difference	
	Inner lead shape	Shape difference (see below)	
Die mount	Material	Ag epoxy paste D *	Ag epoxy paste A *
Bonding wire	Material	No difference: Cu (Pd coating)	
Mold resin	Material	Epoxy resin D * (halogen-free)	Epoxy resin A * (halogen-free)
Plating	Material	No difference	
Marking	Font	Font type difference (see below)	
	Digit number	Slight difference (see below)	
Packing	Tray / T&R	No difference	
Storage conditions	after opening	No difference	

■Package outline comparisons

32pin_LQFP

7mm×7mm 0.8mm pitch 32pin LQFP Package Outline (Greatek)

RENESAS Code : PLQP0032GE-A



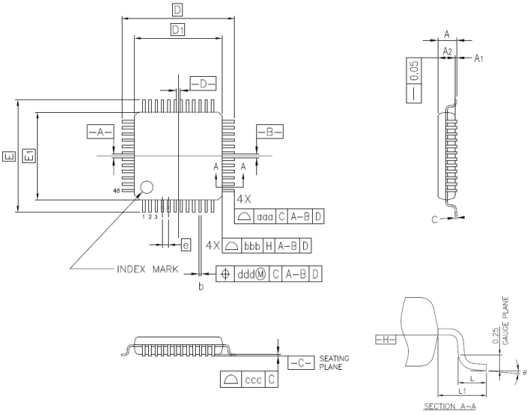
Comparison: 10mm×10mm 0.8mm pitch 44pin LQFP package

Greatek package symbols comply JEDEC standard.

Greatek Symbol	10x10mm 44pin LQFP PLQP0044GE-A			KL Symbol	10x10mm 44pin LQFP PLQP0044GC-A		
	Dimension in Millimeters				Dimension in Millimeters		
	Min	Nom	Max		Min	Nom	Max
A	-	-	1.60	A	-	-	1.60
A1	0.05	-	0.15	A1	0.05	0.10	0.15
A2	1.35	1.40	1.45	A2	1.35	1.40	1.45
D	-	12.00	-	HD	11.80	12.00	12.20
D1	-	10.00	-	D	9.80	10.00	10.20
E	-	12.00	-	HE	11.80	12.00	12.20
E1	-	10.00	-	E	9.80	10.00	10.20
N	-	44	-	-	-	-	-
e	-	0.80	-	e	-	0.80	-
b	0.30	0.37	0.45	b	0.30	0.37	0.45
c	0.09	-	0.20	c	0.10	0.145	0.20
θ	0°	3.5°	7°	θ	0°	3°	8°
L	0.45	0.60	0.75	Lp	0.45	0.60	0.75
L1	-	1.00	-	L1	0.80	1.00	1.20
aaa	-	-	0.20	-	-	-	-
bbb	-	-	0.20	-	-	-	-
ccc	-	-	0.10	y	-	0.10	-
ddd	-	-	0.20	x	-	0.20	-

48pin_LQFP
7mm×7mm 0.5mm pitch 48pin LFQFP Package Outline (Greatek)

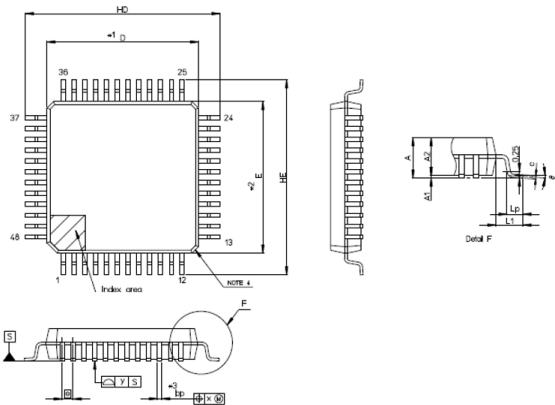
RENESAS Code : PLQP0048KL-A



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	—	9.00	—
D ₁	—	7.00	—
E	—	9.00	—
E ₁	—	7.00	—
N	—	48	—
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

7mm×7mm 0.5mm pitch 48pin LFQFP Package Outline (BJ)

RENESAS Code : PLQP0048KB-B



Reference Symbol	Dimension in Millimeters		
	Min.	Nom.	Max.
D	6.9	7.0	7.1
E	6.9	7.0	7.1
A ₂	—	1.4	—
HD	8.8	9.0	9.2
HE	8.8	9.0	9.2
A	—	—	1.7
A ₁	0.05	—	0.15
Lp	0.17	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	—

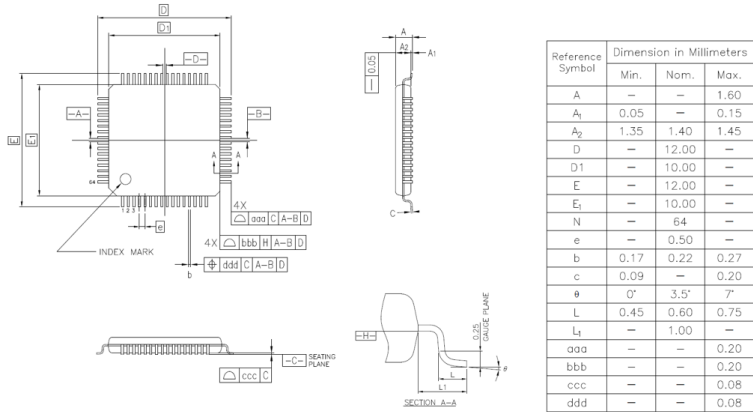
Comparison: 7mm×7mm 0.5mm pitch 48pin LFQFP package

Greatek package symbols comply JEDEC standard.

Greatek Symbol	7x7mm 48pin LQFP PLQP0048KL-A			BJ Symbol	7x7mm 48pin LQFP PLQP0048KB-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	-	9.00	-	HD	8.80	9.00	9.20
D1	-	7.00	-	D	6.90	7.00	7.10
E	-	9.00	-	HE	8.80	9.00	9.20
E1	-	7.00	-	E	6.90	7.00	7.10
N	-	48	-	-	-	-	-
e	-	0.50	-	e	-	0.50	-
b	0.17	0.22	0.27	bp	0.17	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	-	1.00	-
aaa	-	-	0.20	-	-	-	-
bbb	-	-	0.20	-	-	-	-
ccc	-	-	0.08	y	-	-	0.08
ddd	-	-	0.08	x	-	-	0.08

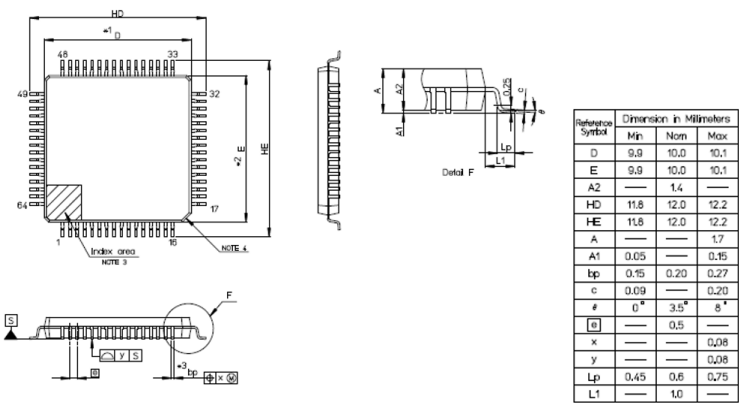
64pin_LQFP
10mm×10mm 0.5mm pitch 64pin LFQFP Package Outline (Greatek)

RENESAS Code : PLQP0064KL-A



10mm×10mm 0.5mm pitch 64pin LFQFP Package Outline (BJ)

RENESAS Code : PLQP0064KB-C

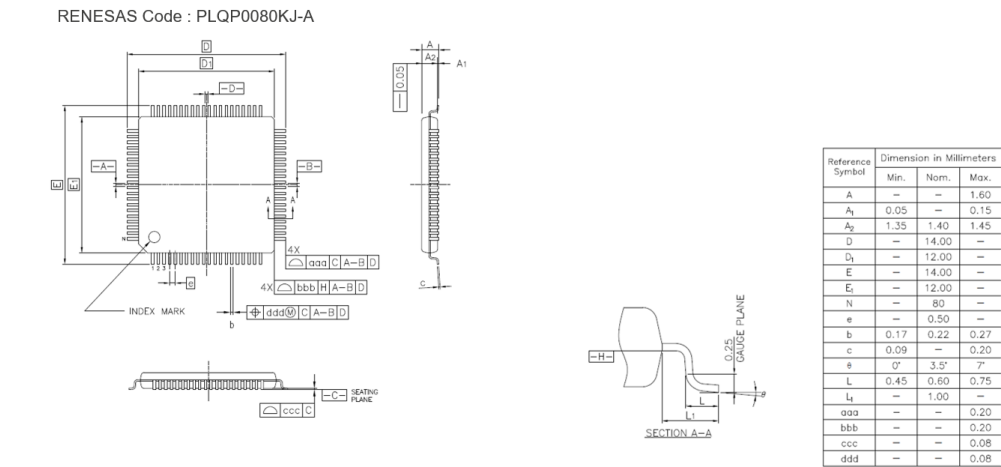


Comparison: 10mm×10mm 0.5mm pitch 64pin LFQFP package

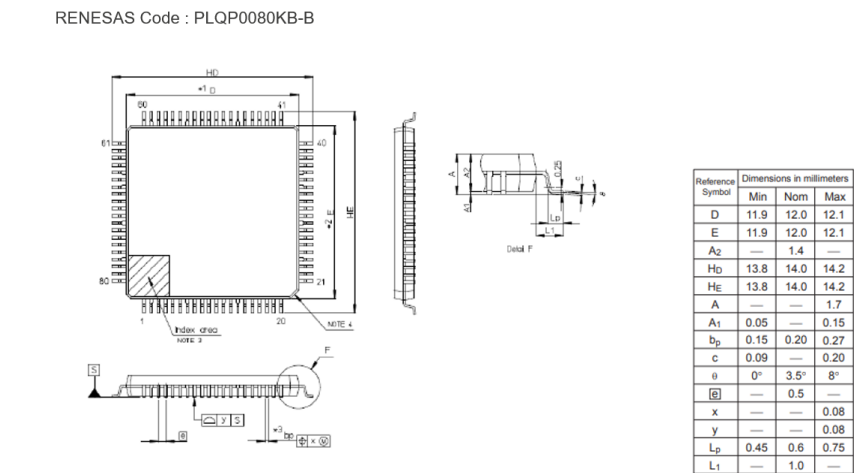
Greatek package symbols comply JEDEC standard.

Greatek Symbol	10x10mm 64pin LQFP PLQP0064KL-A			BJ Symbol	10x10mm 64pin LQFP PLQP0064KB-C		
	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	-	12.00	-	HD	11.80	12.00	12.20
D1	-	10.00	-	D	9.90	10.00	10.10
E	-	12.00	-	HE	11.80	12.00	12.20
E1	-	10.00	-	E	9.90	10.00	10.10
N	-	64	-	-	-	-	-
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

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



12mm×12mm 0.5mm pitch 80pin LFQFP Package Outline (BJ)



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

Greatek package symbols comply JEDEC standard.

Greatek Symbol	12x12mm 80pin LQFP PLQP0080KJ-A			BJ Symbol	12x12mm 80pin LQFP PLQP0080KB-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	-	14.00	-	HD	13.80	14.00	14.20
D1	-	12.00	-	D	11.90	12.00	12.10
E	-	14.00	-	HE	13.80	14.00	14.20
E1	-	12.00	-	E	11.90	12.00	12.10
N	-	80	-	-	-	-	-
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

Lead-frame inner shape difference image

Package structure image

* Package cross-section and die pad shape are reference example.

Assembly Line	PKG cross section	Die pad shape
Additional factory		
Current factory		

*There is no impact on the reliability with these die pad shapes.

Marking appearance image

Marking visibility

*Characters are reference example.

Assembly Line	Greatek (Additional factory)	BJ (Existing factory)	KL (Existing factory)
Overall photo			
Enlarged photo			

10x10mm 0.8mm pitch 44pin LQFP Marking specification

*Difference for 10x10mm 0.8mm pitch 44pin LQFP package only.

Product	Greatek (Addition)	KL (Existing)
Blank ROM		
	1st row - 2nd row 7-digit product name 3rd row 7-digit Lot No.	1st row 7-digit product name 2nd row - 3rd row 9-digit Lot No.

■4M differences

4M changing points (Wafer process facility addition)

Full chip-design compatible wafer-fabrication-process was ported from Kawashiri factory.

Item	Check Result	Judgement
Machine	Sufficiently compatible to produce the equivalent wafer-level structure and electrical characteristics	No risk
Method	Sufficiently compatible to produce the equivalent wafer-level structure and electrical characteristics	No risk
Man	Using operator certification system. Only certificated operator can work for the production.	No risk
Material	Sufficiently compatible to produce the equivalent wafer-level structure and electrical characteristics	No risk

4M changing points (Additional assembly factory)

Item	Check Result	Judgement
Machine	Despite some differences, the machines are equivalent to current fabrication machines. As well as similar existing products which show sufficient MP records, no problem found for the additional products.	No risk
Method	The same as the existing products.	No risk
Operator	Adopting operator certification system, only certificated operators are allowed for performing the production work.	No risk
Material	Only certificated materials are used. The products were certificated by specific reliability test as well as the existing products, no risk to be seen.	No risk