

Product Change Notification

(Notification – P2007037-DIG)

(IMO-AZ-20-003-1)

July 13, 2020

To: *Our Valued Digi-Key Electronics Customer*

Overview: The purpose of this notification is to communicate a product change of select Renesas Electronics America, Inc. (REA) devices.

This notification the following assembly changes for selected devices. Please see the appendix for additional details.

1. Bond Wire change from Gold (Au) to Copper (Cu)
2. Lead Frame change
3. Plating change
4. Die Mount material change
5. Mold Resin material change
6. Assembly Site change from ATJ Kumamoto to Greatek (PTI Group)
7. Sorting Site change from ATJ Kumamoto to KYEC
8. Package Outline change
9. Marking change
10. Packing Material change (tray and tape & reel)
11. Storage Condition change after opening

There is a new part number for the parts with the changes. There is no change to electrical characteristics or product reliability.

The original part number is currently still available, however it may be discontinued at some point in the future. It is highly encouraged to convert to the new part number to avoid any disruption to supply.

Affected Products: A review of our records indicates the list of products in Appendix A may affect your company.

Part numbers given in this list are for active part numbers in REA database at the time of this notification.

Key Dates:

Shipments from REA of the new devices begins.

January 1, 2021

Response: No response is required. REA will consider this notification approved 30 days after its issue. If you anticipate volumes beyond your regular rate prior to the transition date, please contact your REA sales representative with a forecast of your requirements.

If the customer provides a timely acknowledgement, the customer shall have 90 days (an additional 60 days) from the date of receipt of this notification in which to make any objections to the notification. If the customer does not make any objections to this notification within 90 days of the receipt of the notification, then Renesas will consider the notification as approved. If customer cannot accept the notification, then the customer must provide Renesas with a last time buy demand and purchase order.

Please contact your REA sales representative for any questions or comments. Thank you for your attention.

Sincerely,

Renesas Electronics America, Inc.

Appendix A: Digi-Key Affected Part Number List

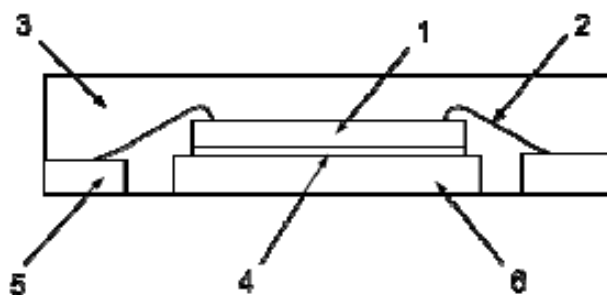
Original Booking Part Number	New PN
R7FS5D37A3A01CNB#AC0	R7FS5D37A3A01CNB#AA0
R7FS5D37A3A01CNB#HC0	R7FS5D37A3A01CNB#HA0
R7FS3A77C3A01CNB#AC1	R7FS3A77C3A01CNB#AA1
R7FS3A6783A01CNF#AC0	R7FS3A6783A01CNF#AA0
R7FS3A6783A01CNE#AC0	R7FS3A6783A01CNE#AA0
R7FS3A6783A01CNB#AC0	R7FS3A6783A01CNB#AA0
R7FS3A37A3A01CNB#AC0	R7FS3A37A3A01CNB#AA0
R7FS3A17C3A01CNB#AC0	R7FS3A17C3A01CNB#AA0
R7FS1JA783A01CNE#AC0	R7FS1JA783A01CNE#AA0
R7FS128783A01CNG#AC1	R7FS128783A01CNG#AA1
R7FS128783A01CNE#AC1	R7FS128783A01CNE#AA1
R7FS124773A01CNF#AC1	R7FS124773A01CNF#AA1
R7FS124773A01CNE#AC1	R7FS124773A01CNE#AA1
R7FS124773A01CNB#AC1	R7FS124773A01CNB#AA1
R7FA6M1AD3CNB#AC0	R7FA6M1AD3CNB#AA0
R7FA4M1AB3CNB#AC0	R7FA4M1AB3CNB#AA0
R7FA4M1AB3CNE#AC0	R7FA4M1AB3CNE#AA0
R7FA2A1AB3CNE#AC0	R7FA2A1AB3CNE#AA0
R7FA2A1AB3CNF#AC0	R7FA2A1AB3CNF#AA0

Appendix B: Change Summary

Item		Current	New (After Change)
Assembly Site		Amkor Technology Japan Kumamoto	Greatek Electronics Inc. (Powertech Technology Inc., Group)
Sorting Site			King Yuan Electronics Corp
Package Outline		-	Changed
Parts	Lead Frame	-	Changed
	Die Mount	Ag Epoxy Paste A	Ag Epoxy Paste B
	Bonding Wire	Au	Cu (Pd Coating)
	Mold Resin	Mold Resin A	Mold Resin B
	Plating	PPF	Pure-Sn
Marking	Font	-	Changed
	Manufacturing Lot Number	9 Digits	7 Digits
Packing	Tray	-	Changed (except 6x6)
	Bundling Band Color	Multiple Colors	Add Black
	Emboss Tape (Tape & Reel)	-	Changed
Storage Condition (After Opening)		Within 30°C / 70%RH / 168h	Within 30°C / 60%RH / 168h

Appendix C: Package Structure Image

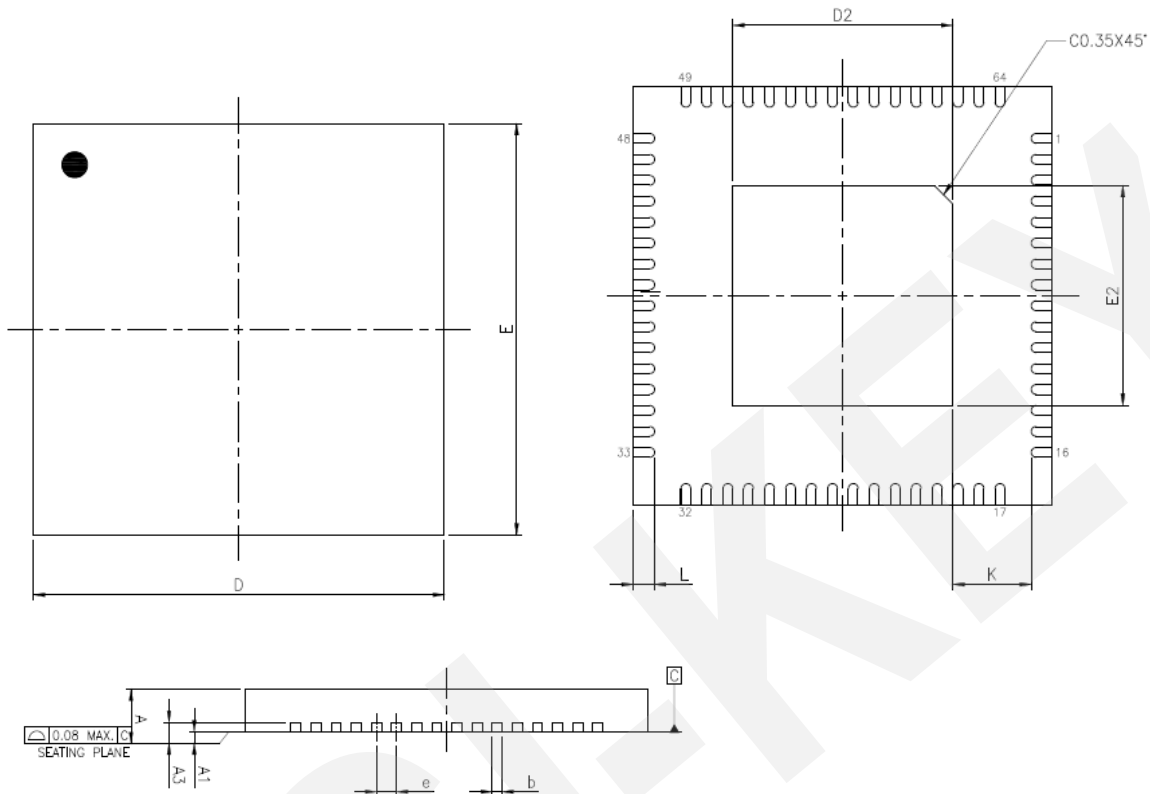
Package Section and die pad shape is a reference example.



No.	部材 Part
1	チップ Die
2	ワイヤ Wire
3	封止材 Molding material
4	ダイアタッチ材 Die attach material
5	Cu リード: Ni/Pd/Au めっき Cu lead: Ni/Pd/Au plating
6	ダイパッド Die pad

The materials are different because they use materials certified at the site, but the structure is equivalent.

Appendix D: Package Outline 8mm x 8mm 64pin HWQFN





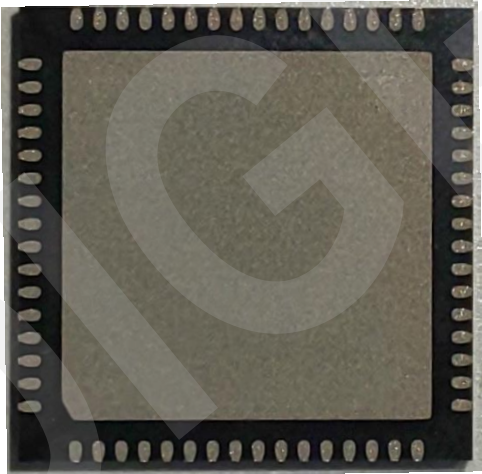
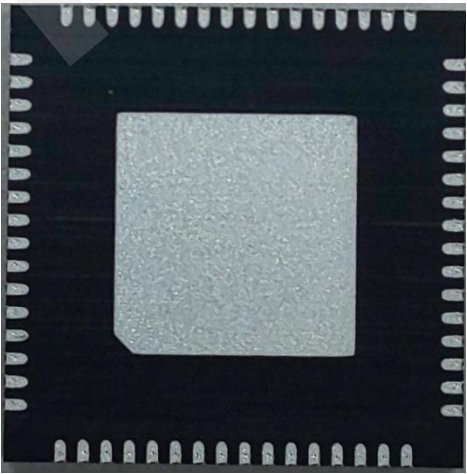

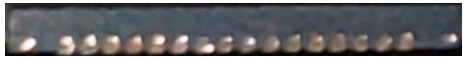
The indication format/standard has been changed to JEDEC compliant.

Item	Symbol	Current			New		
		Min.	Nom.	Max.	Min.	Nom.	Max.
Package Length	D	7.95	8.00	8.05	8.00 BSC		
Package Width	E	7.95	8.00	8.05	8.00 BSC		
Seated Height	A	-	-	0.80	-	-	0.80
1st Standoff Height	A1	0.00	-	-	0.00	-	-
Terminal Width	b	0.17	0.2	0.23	0.15	0.20	0.25
Terminal Pitch	e	-	0.40	-	0.40 BSC		
Terminal Length	L	0.30	0.40	0.50	0.35	0.40	0.45
Coplanarity	-	-	-	0.05	-	-	0.08
Terminal to Die Pad Length	K	-	-	-	0.20	-	-
Terminal Thickness	A3	0.15	0.20	0.25	0.203 REF		
Die Pad Length	D2	-	6.50	-	-	4.20	-
Die Pad Width (S5D3, S124, RA6M1)	E2	-	6.50	-	-	4.20	-
Die Pad Width (Other Group)	E2	-	6.50	-	-	6.50	-

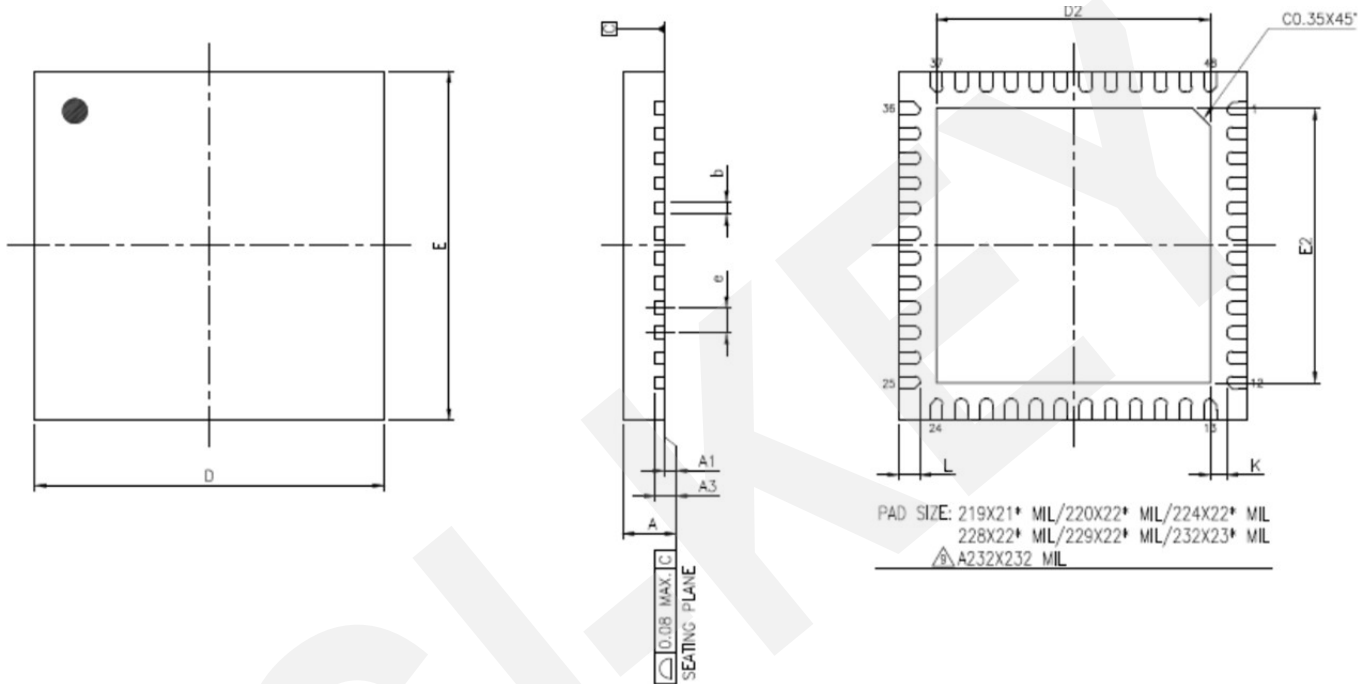
Amkor Technology Japan Kumamoto (current factory) is JEITA standard, items and symbols are different.

Appendix D (cont.): Package Outline 8mm×8mm 64pin HWQFN (S5D3, RA6M1, & S124)

Character is reference example.

Item	Current	New
Package Surface		
Package Back		
Package Side		

Appendix E: Package Outline 7mm x 7mm 48pin HWQFN

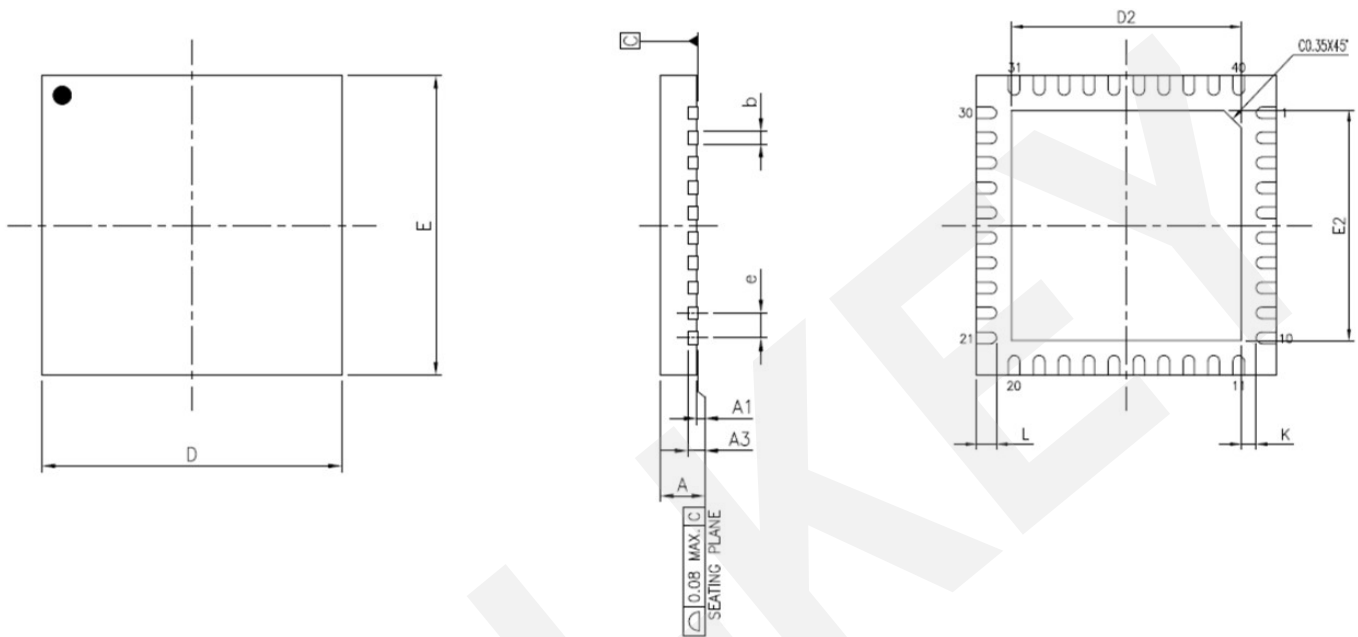


The indication format/standard has been changed to JEDEC compliant.

Item	Symbol	Current			New		
		Min.	Nom.	Max.	Min.	Nom.	Max.
Package Length	D	6.95	7.00	7.05	7.00 BSC		
Package Width	E	6.95	7.00	7.05	7.00 BSC		
Seated Height	A	-	-	0.80	-	-	0.80
1st Standoff Height	A1	0.00	-	-	0.00	-	-
Terminal Width	b	0.18	0.25	0.30	0.15	-	0.30
Terminal Pitch	e	-	0.50	-	0.50 BSC		
Terminal Length	L	0.30	0.40	0.50	0.30	0.40	0.50
Coplanarity	-	-	-	0.05	-	-	0.08
Terminal to Die Pad Length	K	-	-	-	0.20	-	-
Terminal Thickness	A3	0.15	0.20	0.25	0.203 REF		
Die Pad Length	D2	-	5.50	-	-	5.30	-
Die Pad Width	E2	-	5.50	-	-	5.30	-

Amkor Technology Japan Kumamoto (current factory) is JEITA standard, items and symbols are different.

Appendix F: Package Outline 6mm × 6mm 40pin HWQFN

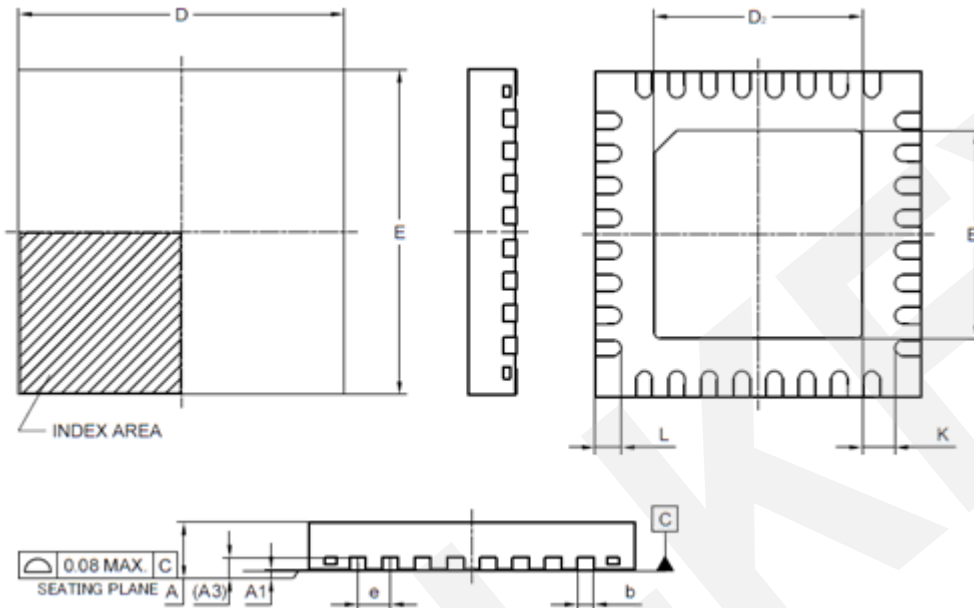


The indication format/standard has been changed to JEDEC compliant.

Item	Symbol	Current			New		
		Min.	Nom.	Max.	Min.	Nom.	Max.
Package Length	D	5.95	6.00	6.05	6.00 BSC		
Package Width	E	5.95	6.00	6.05	6.00 BSC		
Seated Height	A	-	-	0.80	-	-	0.80
1st Standoff Height	A1	0.00	-	-	0.00	-	-
Terminal Width	b	0.18	0.25	0.30	0.15	-	0.30
Terminal Pitch	e	-	0.50	-	0.50 BSC		
Terminal Length	L	0.30	0.40	0.50	0.30	0.40	0.50
Coplanarity	-	-	-	0.05	-	-	0.08
Terminal to Die Pad Length	K	-	-	-	0.20	-	-
Terminal Thickness	A3	0.15	0.20	0.25	0.203 REF		
Die Pad Length	D2	-	4.50	-	-	4.50	-
Die Pad Width	E2	-	4.50	-	-	4.50	-

Amkor Technology Japan Kumamoto (current factory) is JEITA standard, items and symbols are different.

Appendix G: Package Outline 5mm x 5mm 32pin HWQFN




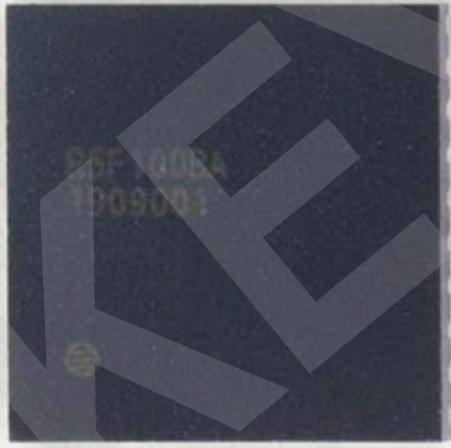
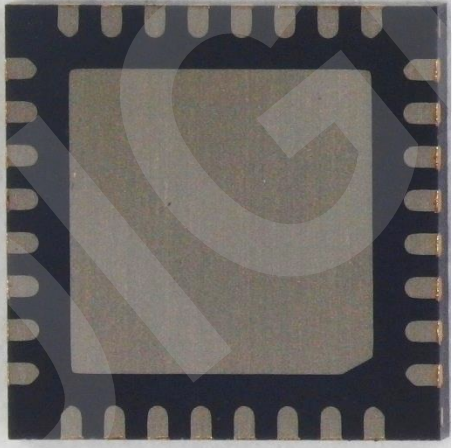
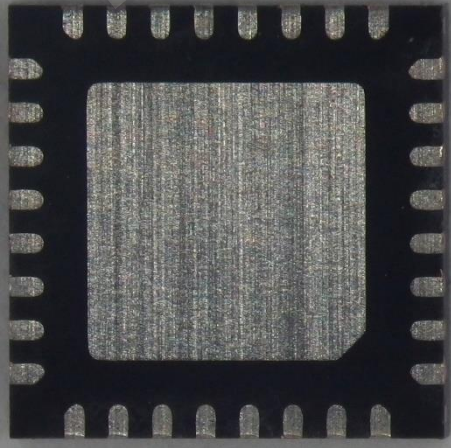
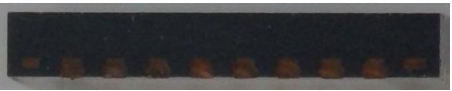

The indication format/standard has been changed to JEDEC compliant.

Item	Symbol	Current			New		
		Min.	Nom.	Max.	Min.	Nom.	Max.
Package Length	D	4.95	5.00	5.05	5.00 BSC		
Package Width	E	4.95	5.00	5.05	5.00 BSC		
Seated Height	A	-	-	0.80	-	-	0.80
1st Standoff Height	A1	0.00	-	-	0.00	-	-
Terminal Width	b	0.18	0.25	0.30	0.18	0.25	0.30
Terminal Pitch	e	-	0.50	-	0.50 BSC		
Terminal Length	L	0.30	0.40	0.50	0.35	0.40	0.45
Coplanarity	-	-	-	0.05	-	-	0.08
Terminal to Die Pad Length	K	-	-	-	0.20	-	-
Terminal Thickness	A3	0.15	0.20	0.25	0.203 REF		
Die Pad Length	D2	-	3.50	-	-	3.50	-
Die Pad Width	E2	-	3.50	-	-	3.50	-

Amkor Technology Japan Kumamoto (current factory) is JEITA standard, items and symbols are different.

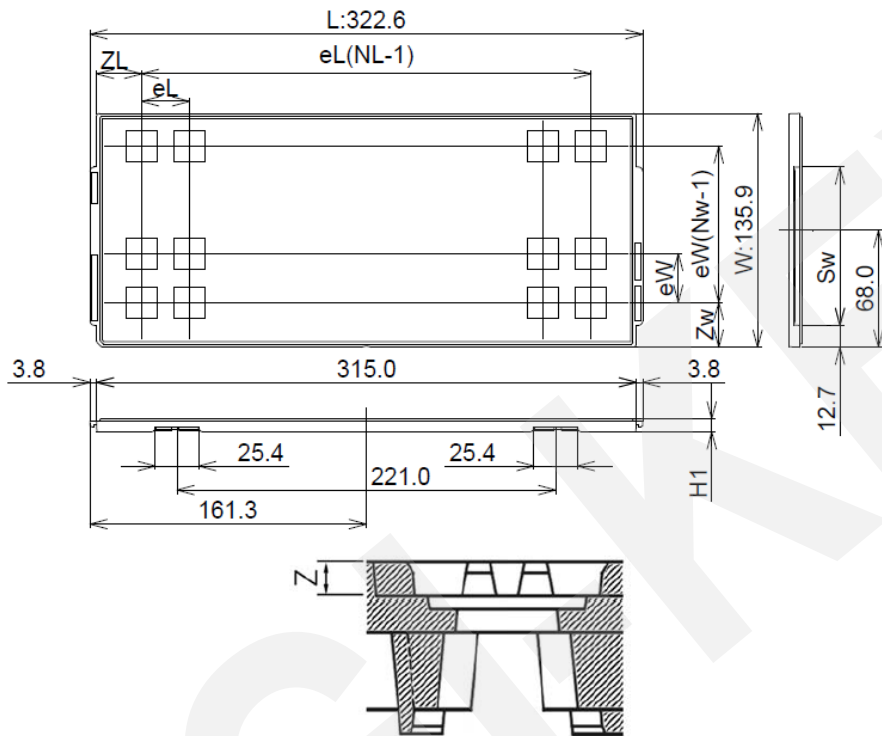
Appendix G (cont.): Package Outline 5mm x 5mm 32pin HWQFN

Character is reference example.

Item	Current	New
<p>Package Surface</p>		
<p>Package Back</p>		
<p>Package Side</p>		

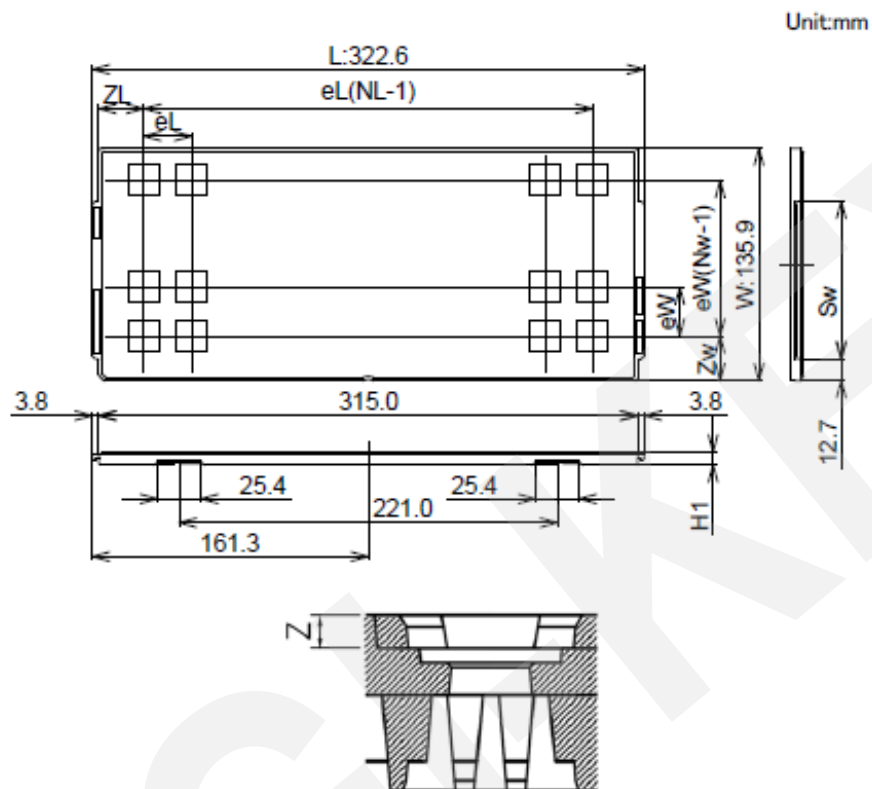
Appendix H: Packing Specification 8mm x 8mm 64pin Tray (New Tray)

Unit:mm



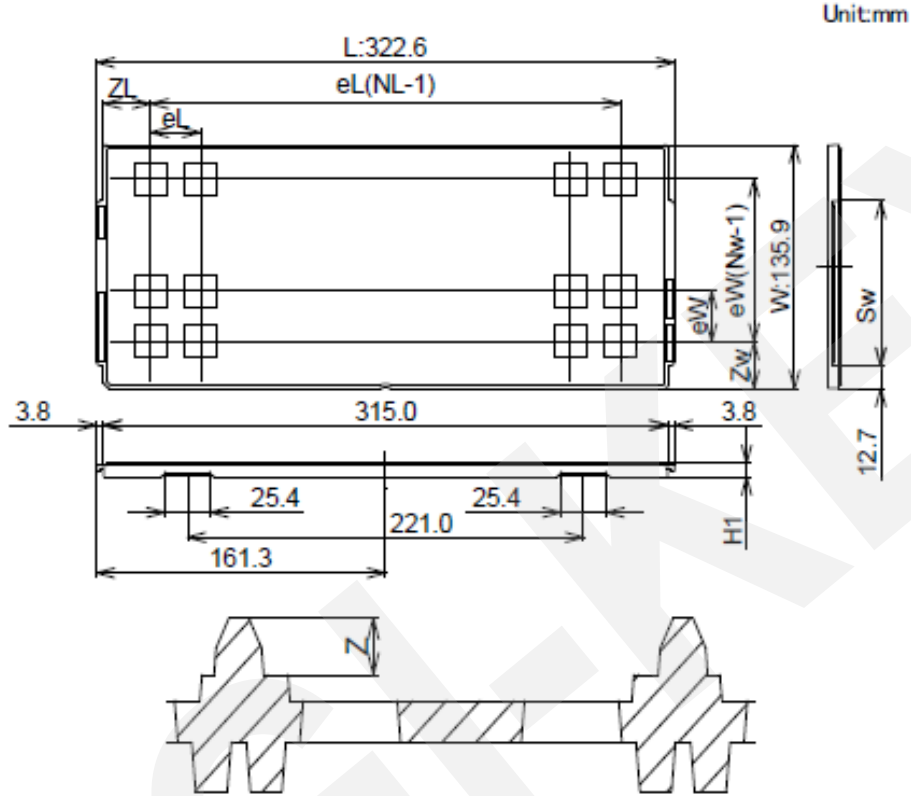
Tray Code		Current	New
		EAM0808-10 REV.A	EA70808-10
Position Dimension of Cells	Z	1.45	1.50
	Zw	10.35	10.75
	ZL	10.00	11.90
	eW	12.80	10.40
	eL	11.80	10.40
	Sw	92.1	
Thickness (mm)	H1	7.62	
Number of Cells	Nw	10	12
	NL	26	29
Maximum Storage Pcs. IC/Tray		260	348
Maximum Storage Pcs IC/Inner Box		2080	2784
Material		Carbon PPE	
Heat Resistant Temperature		150° C MAX	135° C MAX
JEDEC or Custom		JEDEC	
Surface Resistance		-	Less than 1x10 ¹¹ Ω/□

Appendix I: Packing Specification 7mm x 7mm 48pin Tray (New Tray)



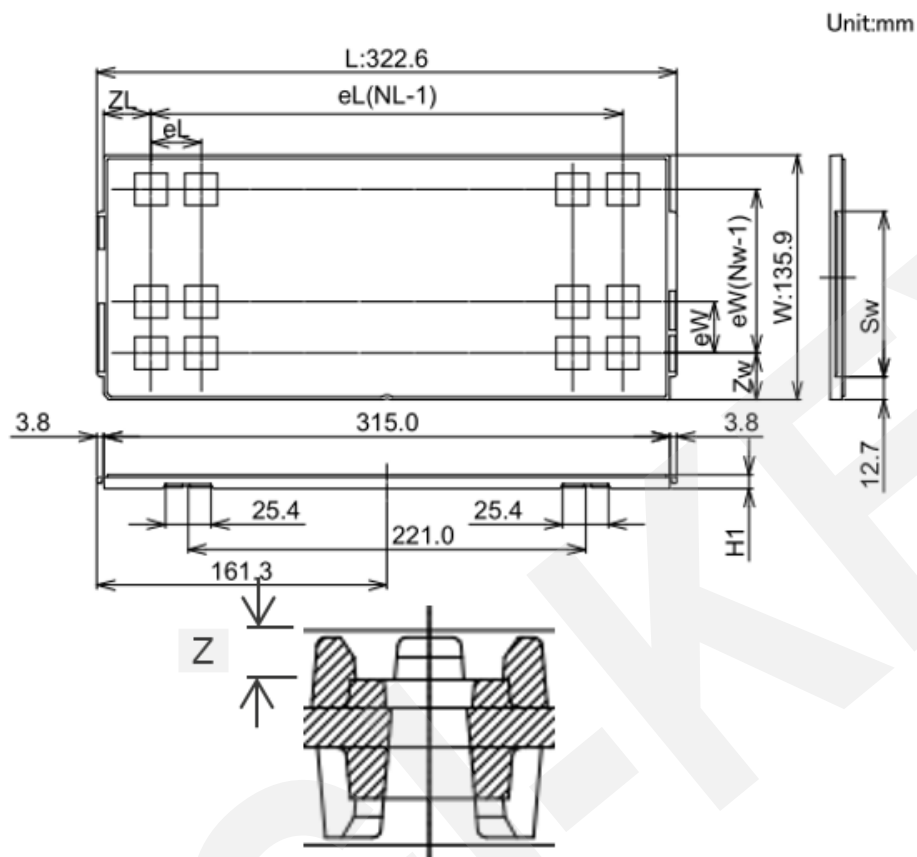
Tray Code		Current	New
		EAM0707-10	REV.C EAG0707-10
Position Dimension of Cells	Z	1.55	1.40
	Zw	10.35	11.55
	ZL	10.00	11.80
	eW	12.80	9.40
	eL	11.80	9.40
	Sw	92.1	
Thickness (mm)	H1	7.62	
Number of Cells	Nw	10	13
	NL	26	32
Maximum Storage Pcs. IC/Tray		260	416
Maximum Storage Pcs IC/Inner Box		2080	3328
Material		Carbon PPE	
Heat Resistant Temperature		135° C MAX	
JEDEC or Custom		JEDEC	
Surface Resistance		Less than $1 \times 10^{11} \Omega / \square$	

Appendix J: Packing Specification 6mm x 6mm 40pin Tray (No Change)



Tray Code		Current	New
		EAM0606-10	
Position Dimension of Cells	Z	1.35	
	Zw	8.15	
	ZL	7.90	
	eW	9.20	
	eL	8.80	
	Sw	92.1	
Thickness (mm)	H1	7.62	
Number of Cells	Nw	14	
	NL	35	
Maximum Storage Pcs. IC/Tray		490	
Maximum Storage Pcs IC/Inner Box		3820	
Material		Carbon PPE	
Heat Resistant Temperature		135° C MAX	
JEDEC or Custom		JEDEC	
Surface Resistance		Less than $1 \times 10^{11} \Omega / \square$	

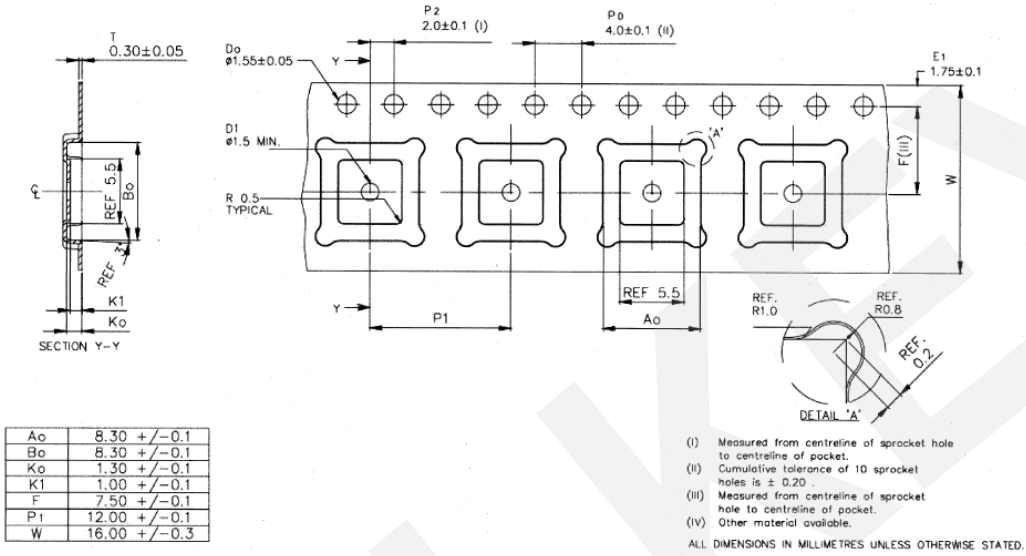
Appendix K: Packing Specification 5mm x 5mm 32pin Tray (New Tray)



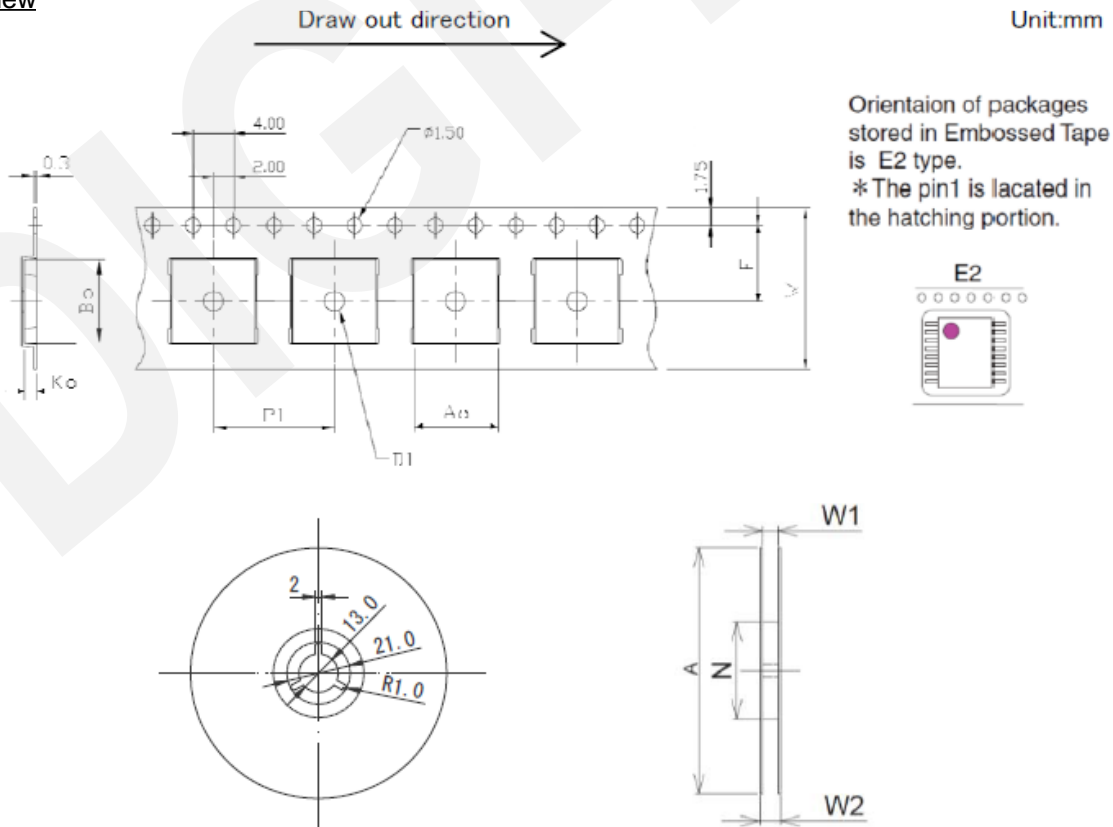
Tray Code		Current	New
		Rev.B EAM050503-10	EAM050501-10
Position Dimension of Cells	Z	1.50	1.75
	Zw	8.15	
	ZL	7.90	
	eW	9.20	
	eL	8.80	
	Sw	92.10	
Thickness (mm)	H1	7.62	
Number of Cells	Nw	14	
	NL	35	
Maximum Storage Pcs. IC/Tray		490	
Maximum Storage Pcs IC/Inner Box		3920	
Material		Carbon PPE	
Heat Resistant Temperature		135° C MAX	
JEDEC or Custom		JEDEC	
Surface Resistance		Less than $1 \times 10^{11} \Omega / \square$	

Appendix L: Packing Specification 8mm x 8mm 64pin Embossed Tape (Tape & Reel)

Current



New



Appendix L (cont.): Packing Specification 8mm x 8mm 64pin Embossed Tape (Tape & Reel)

Tape Code		Current	New
		E16*12-□□-C0CA	EC7080801-112
Tape Dimensions (mm)	W	16.0	
	P1	12.0	
	A0	8.3	
	B0	8.3	
	K0	1.0	1.2
	F	7.5	
	D1	1.5	2.0
Reel Dimensions (mm)	A	330	
	W1	17.5	16.8
	W2	21.5	22.2
Maximum Storage Pcs. IC/Reel		2500	
Material		Carbon PS	
Surface Resistance		Less than $1 \times 10^{11} \Omega / \square$	

Appendix M: 4M Changing Points

Item	Check Result	Judgement
Machine	<p>Changing at assembly and sorting. The machines are equivalent to present machines.</p> <p>To prevent copper wire oxidization, inert gas is used to wire bonding process.</p> <p>There are production results of copper wire products in the new site and we have already checked there is no risk at the start of this product's production.</p>	No Risk
Method	Bonding method (thermosonic bonding) and process flow for the Cu wiring are same as the Au wiring.	No Risk
Man	Using operator certification system. Only certificated operator can work for the production.	No Risk
Material	<p>Using only certificated copper wire. And applying certificated lead frame, die attach epoxy and mold compound for copper wire products.</p> <p>The product has been certificated by reliability test same as gold wire products and have no risk.</p>	No Risk