RENESAS

Product Change Notification

(Notification - P1608040-DIGI)

(CST-R2-AJ094)

August 19, 2016

To: *Our Valued Digi-Key, Inc. Customer*

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

Select SRAM products in TSOP packages are undergoing the following changes (see Appendix for specific details)...

1. Assembly and Final Test Site change from Renesas Semiconductor Beijing to Amkor Technology Malaysia (Assembly) & Powertech Technology Inc. (Final Test).
2. Lead Frame Material change from 42-Alloy to Cu.
3. Moisture Sensitivity Level change from MSL2 to MSL3.
4. Lead Plating Material change from Sn-Cu to Sn.
5. Change to Halogen Free molding compound.
6. Standardization of JEDEC trays and Tape & Reel specifications.

There are no changes to electrical characteristics or reliability & quality levels.

Affected Products: A review of our records to your company indicate the attached list of products is affected by this notification.

Booking Part Number	Suggested Replacement Part Number
R1LP0108ESA-5SI#B0	R1LP0108ESA-5SI#B1
R1LP0108ESF-5SI#B0	R1LP0108ESF-5SI#B1
R1LP0408DSB-5SI#B0	R1LP0408DSB-5SI#B1
R1LP5256ESA-5SI#B0	R1LP5256ESA-5SI#B1
R1LV0108ESA-5SI#B0	R1LV0108ESA-5SI#B1
R1LV0108ESF-5SI#B0	R1LV0108ESF-5SI#B1
R1LV3216RSA-5SI#B0	R1LV3216RSA-5SI#B1
R1LV5256ESA-5SI#B0	R1LV5256ESA-5SI#B1
R1RW0416DSB-2PI#D0	R1RW0416DSB-2PI#D1

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

Key Dates:

Samples of replacement device available.	**Nov. 1st, 2016**
Final last time buy **(LTB)** orders of original part number placed to REA or to a franchised REA distributor.	**Dec. 15th, 2016**
Planned date for last time shipment **(LTS)** of original part number from REA.	**Jun. 15th, 2017**

Response: Please place last time buy (LTB) orders in a timely manner prior to the key dates listed to avoid product availability issues. If you anticipate volumes beyond your regular rate, please contact your REA sales representative with a forecast of your requirements. Shipments between the LTB and LTS dates are Non-Cancelable and Non-Returnable (NCNR).

You are encouraged to sample the suggested replacement device and begin qualification as soon as possible. Please contact you REA sales representative to obtain samples.

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

Thank you for your attention.

Sincerely,

Renesas Electronics America, Inc.

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Appendix A: Change Details

(1) 28pin-TSOP(I) 256Kb(5V) Part name : R1LP5256ESA

Item		Pre Change	Post Change
Orderable part name		R1LP5256ESA-5SI/-5SR/-7SI/-7SR#B0 (Tray packing)	R1LP5256ESA-5SI#B1 (Tray packing)
		R1LP5256ESA-5SI/-5SR/-7SI/-7SR#S0 (Tape & Reel packing)	R1LP5256ESA-5SI#S1 (Tape & Reel packing)
Assembly line		Renesas Semiconductor Beijing (China)	Amkor Technology Malaysia (Malaysia)
Country of origin display		CHINA	MALAYSIA
JEITA Package Code		P-TSOP(1)28-8x11.8-0.55	P-TSOP(1)28-8x11.8-0.55
Package marking specification		R1LP5256ESA CHINA -5SI XXXXXXXX R1LP5256ESA CHINA -5SR XXXXXXXX R1LP5256ESA CHINA -7SI XXXXXXXX R1LP5256ESA → Part name CHINA -7SR → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line: Assembly)	R1LP5256ESA → Part name MALAYSIA -5SI → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line: Assembly)
Assembly Material	Lead frame material	42Alloy	Cu
	Lead plating	Sn-Cu	Sn (pure tin)
	Die bonding	Epoxy paste	Epoxy paste
	Wire bonding	Au	Au
	Mold	Epoxy resin (Halogen-included)	Epoxy resin (Halogen-free)
Final test line		Renesas Semiconductor Beijing (China)	Powertech Technology Inc. (Taiwan)
Tray packing	Packing specification	Current specification	New specification
	Tray	JEDEC Tray with Renesas Logo (TSOP I package size: 8mm x 11.8mm)	JEDEC Tray without Renesas Logo (TSOP I package size: 8mm x 11.8mm)
	Storage number	234pcs/tray	234pcs/tray
	Laying direction of Ics on a tray	Direction from the top left position to the down side (when the position of chamfer in tray's corner is bottom left.)	No change
	Number of trays (Max.)	8 trays + 1 tray (cover)	10 trays + 1 tray (cover)
	Inner box size (LxWxH)	330mm x 152mm x 75mm	351mm x 175mm x 104mm
Tape & Reel packing	Packing specification	Current specification	New specification
	Embossed tape	Current specification	New specification
	Storage number	1,000pcs/reel	1,000pcs/reel
	Inner box size (LxWxH)	288mm x 273mm x 48mm	289mm x 264mm x 60mm
Moisture-proof performance		MSL 2	MSL 3
Shipping label		Current specification	No change in format (Changes in orderable part name, country of origin and MSL display)

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Appendix A (cont.): Change Details

(2) 28pin-TSOP(I) 256Kb(3V) Part name : R1LV5256ESA

Item		Pre Change	Post Change
Orderable part name		R1LV5256ESA-5SI/-5SR/-7SI/-7SR#B0 (Tray packing)	R1LV5256ESA-5SI#B1 (Tray packing)
		R1LV5256ESA-5SI/-5SR/-7SI/-7SR#S0 (Tape & Reel packing)	R1LV5256ESA-5SI#S1 (Tape & Reel packing)
Assembly line		Renesas Semiconductor Beijing (China)	Amkor Technology Malaysia (Malaysia)
Country of origin display		CHINA	MALAYSIA
JEITA Package Code		P-TSOP(1)28-8x11.8-0.55	P-TSOP(1)28-8x11.8-0.55
Package marking specification		R1LV5256ESA CHINA -5SI XXXXXXXX R1LV5256ESA CHINA -5SR XXXXXXXX R1LV5256ESA CHINA -7SI XXXXXXXX R1LV5256ESA → Part name CHINA -7SR → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line: Assembly)	R1LV5256ESA → Part name MALAYSIA -5SI → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line: Assembly)
Assembly Material	Lead frame material	42Alloy	Cu
	Lead plating	Sn-Cu	Sn (pure tin)
	Die bonding	Epoxy paste	Epoxy paste
	Wire bonding	Au	Au
	Mold	Epoxy resin (Halogen-included)	Epoxy resin (Halogen-free)
Final test line		Renesas Semiconductor Beijing (China)	Powertech Technology Inc. (Taiwan)
Tray packing	Packing specification	Current specification	New specification
	Tray	JEDEC Tray with Renesas Logo (TSOP I package size: 8mm x 11.8mm)	JEDEC Tray without Renesas Logo (TSOP I package size: 8mm x 11.8mm)
	Storage number	234pcs/tray	234pcs/tray
	Laying direction of Ics on a tray	Direction from the top left position to the down side (when the position of chamfer in tray's corner is bottom left.)	No change
	Number of trays (Max.)	8 trays + 1 tray (cover)	10 trays + 1 tray (cover)
	Inner box size (LxWxH)	330mm x 152mm x 75mm	351mm x 175mm x 104mm
Tape & Reel packing	Packing specification	Current specification	New specification
	Embossed tape	Current specification	New specification
	Storage number	1,000pcs/reel	1,000pcs/reel
	Inner box size (LxWxH)	288mm x 273mm x 48mm	289mm x 264mm x 60mm
Moisture-proof performance		MSL 2	MSL 3
Shipping label		Current specification	No change in format (Changes in orderable part name, country of origin and MSL display)

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Appendix A (cont.): Change Details

(3) 32pin-TSOP(I) 1Mb(5V) Part name : R1LP0108ESF

Item		Pre Change	Post Change
Orderable part name		R1LP0108ESF-5SI/-5SR/-7SI/-7SR#B0 (Tray packing)	R1LP0108ESF-5SI#B1 (Tray packing)
		R1LP0108ESF-5SI/-5SR/-7SI/-7SR#S0 (Tape & Reel packing)	R1LP0108ESF-5SI#S1 (Tape & Reel packing)
Assembly line		Renesas Semiconductor Beijing (China)	Amkor Technology Malaysia (Malaysia)
Country of origin display		CHINA	MALAYSIA
JEITA Package Code		P-TSOP(1)32-8x18.4-0.50	P-TSOP(1)32-8x18.4-0.50
Package marking specification		R1LP0108ESF -5SI CHINA XXXXXXXX R1LP0108ESF -5SR CHINA XXXXXXXX R1LP0108ESF -7SI CHINA XXXXXXXX R1LP0108ESF — Part name -7SR — Electrical characteristics CHINA XXXXXXXX — Date code Country of origin (Back-End Line:Assembly)	Index mark R1LP0108ESF — Part name MALAYSIA -5SI — Electrical characteristics XXXXXXXX — Date code Country of origin (Back-End Line:Assembly)
Assembly Material	Lead frame material	42Alloy	Cu
	Lead plating	Sn-Cu	Sn (pure tin)
	Die bonding	Epoxy paste	Epoxy paste
	Wire bonding	Au	Au
	Mold	Epoxy resin (Halogen-included)	Epoxy resin (Halogen-free)
Final test line		Renesas Semiconductor Beijing (China)	Powertech Technology Inc. (Taiwan)
Tray packing	Packing specification	Current specification	New specification
	Tray	JEDEC Tray with Renesas Logo (TSOP I package size: 8mm x 18.4mm)	JEDEC Tray without Renesas Logo (TSOP I package size: 8mm x 18.4mm)
	Storage number	156pcs/tray	156pcs/tray
	Laying direction of Ics on a tray	Direction from the top left position to the down side (when the position of chamfer in tray's corner is bottom left.)	No change
	Number of trays (Max.)	8 trays + 1 tray (cover)	10 trays + 1 tray (cover)
	Inner box size (LxWxH)	330mm x 152mm x 75mm	351mm x 175mm x 104mm
Tape & Reel packing	Packing specification	Current specification	New specification
	Embossed tape	Current specification	New specification
	Storage number	1,000pcs/reel	1,000pcs/reel
	Inner box size (LxWxH)	288mm x 273mm x 48mm	289mm x 264mm x 60mm
Moisture-proof performance		MSL 2	MSL 3
Shipping label		Current specification	No change in format (Changes in orderable part name, country of origin and MSL display)

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Appendix A (cont.): Change Details

(4) 32pin-TSOP(I) 1Mb(3V) Part name : R1LV0108ESF

Item		Pre Change	Post Change
Orderable part name		R1LV0108ESF-5SI/-5SR/-7SI/-7SR#B0 (Tray packing)	R1LV0108ESF-5SI#B1 (Tray packing)
		R1LV0108ESF-5SI/-5SR/-7SI/-7SR#S0 (Tape & Reel packing)	R1LV0108ESF-5SI#S1 (Tape & Reel packing)
Assembly line		Renesas Semiconductor Beijing (China)	Amkor Technology Malaysia (Malaysia)
Country of origin display		CHINA	MALAYSIA
JEITA Package Code		P-TSOP(1)32-8x18.4-0.50	P-TSOP(1)32-8x18.4-0.50
Package marking specification		R1LV0108ESF -5SI CHINA XXXXXXXX R1LV0108ESF -5SR CHINA XXXXXXXX R1LV0108ESF -7SI CHINA XXXXXXXX R1LV0108ESF → Part name -7SR → Electrical characteristics CHINA XXXXXXXX → Date code Country of origin (Back-End Line:Assembly)	Index mark R1LV0108ESF → Part name MALAYSIA -5SI → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line:Assembly)
Assembly Material	Lead frame material	42Alloy	Cu
	Lead plating	Sn-Cu	Sn (pure tin)
	Die bonding	Epoxy paste	Epoxy paste
	Wire bonding	Au	Au
	Mold	Epoxy resin (Halogen-included)	Epoxy resin (Halogen-free)
Final test line		Renesas Semiconductor Beijing (China)	Powertech Technology Inc. (Taiwan)
Tray packing	Packing specification	Current specification	New specification
	Tray	JEDEC Tray with Renesas Logo (TSOP I package size: 8mm x 18.4mm)	JEDEC Tray without Renesas Logo (TSOP I package size: 8mm x 18.4mm)
	Storage number	156pcs/tray	156pcs/tray
	Laying direction of Ics on a tray	Direction from the top left position to the down side (when the position of chamfer in tray's corner is bottom left.)	No change
	Number of trays (Max.)	8 trays + 1 tray (cover)	10 trays + 1 tray (cover)
	Inner box size (LxWxH)	330mm x 152mm x 75mm	351mm x 175mm x 104mm
Tape & Reel packing	Packing specification	Current specification	New specification
	Embossed tape	Current specification	New specification
	Storage number	1,000pcs/reel	1,000pcs/reel
	Inner box size (LxWxH)	288mm x 273mm x 48mm	289mm x 264mm x 60mm
Moisture-proof performance		MSL 2	MSL 3
Shipping label		Current specification	No change in format (Changes in orderable part name, country of origin and MSL display)

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Appendix A (cont.): Change Details

(5) 32pin-sTSOP 1Mb(5V) Part name : R1LP0108ESA

Item		Pre Change	Post Change
Orderable part name		R1LP0108ESA-5SI/-5SR/-7SI/-7SR#B0 (Tray packing)	R1LP0108ESA-5SI#B1 (Tray packing)
		R1LP0108ESA-5SI/-5SR/-7SI/-7SR#S0 (Tape & Reel packing)	R1LP0108ESA-5SI#S1 (Tape & Reel packing)
Assembly line		Renesas Semiconductor Beijing (China)	Amkor Technology Malaysia (Malaysia)
Country of origin display		CHINA	MALAYSIA
JEITA Package Code		P-TSOP(1)32-8x11.8-0.50	P-TSOP(1)32-8x11.8-0.50
Package marking specification		R1LP0108ESA CHINA -5SI XXXXXXXX R1LP0108ESA CHINA -5SR XXXXXXXX R1LP0108ESA CHINA -7SI XXXXXXXX R1LP0108ESA (Part name) CHINA -7SR (Electrical characteristics) XXXXXXXX (Date code) Country of origin (Back-End Line:Assembly)	R1LP0108ESA (Part name) MALAYSIA -5SI (Electrical characteristics) XXXXXXXX (Date code) Country of origin (Back-End Line:Assembly)
Assembly Material	Lead frame material	42Alloy	Cu
	Lead plating	Sn-Cu	Sn (pure tin)
	Die bonding	Epoxy paste	Epoxy paste
	Wire bonding	Au	Au
	Mold	Epoxy resin (Halogen-included)	Epoxy resin (Halogen-free)
Final test line		Renesas Semiconductor Beijing (China)	Powertech Technology Inc. (Taiwan)
Tray packing	Packing specification	Current specification	New specification
	Tray	JEDEC Tray with Renesas Logo (TSOP I package size: 8mm x 11.8mm)	JEDEC Tray without Renesas Logo (TSOP I package size: 8mm x 11.8mm)
	Storage number	234pcs/tray	234pcs/tray
	Laying direction of Ics on a tray	Direction from the top left position to the down side (when the position of chamfer in tray's corner is bottom left.)	No change
	Number of trays (Max.)	8 trays + 1 tray (cover)	10 trays + 1 tray (cover)
	Inner box size (LxWxH)	330mm x 152mm x 75mm	351mm x 175mm x 104mm
Tape & Reel packing	Packing specification	Current specification	New specification
	Embossed tape	Current specification	New specification
	Storage number	1,000pcs/reel	1,000pcs/reel
	Inner box size (LxWxH)	288mm x 273mm x 48mm	289mm x 264mm x 60mm
Moisture-proof performance		MSL 2	MSL 3
Shipping label		Current specification	No change in format (Changes in orderable part name, country of origin and MSL display)

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Appendix A (cont.): **Change Details**

(6) 32pin-sTSOP 1Mb(3V) Part name : R1LV0108ESA

Item		Pre Change	Post Change
Orderable part name		R1LV0108ESA-5SI/-5SR/-7SI/-7SR#B0 (Tray packing)	R1LV0108ESA-5SI#B1 (Tray packing)
		R1LV0108ESA-5SI/-5SR/-7SI/-7SR#S0 (Tape & Reel packing)	R1LV0108ESA-5SI#S1 (Tape & Reel packing)
Assembly line		Renesas Semiconductor Beijing (China)	Amkor Technology Malaysia (Malaysia)
Country of origin display		CHINA	MALAYSIA
JEITA Package Code		P-TSOP(1)32-8x11.8-0.50	P-TSOP(1)32-8x11.8-0.50
Package marking specification		R1LV0108ESA CHINA -5SI XXXXXXXX R1LV0108ESA CHINA -5SR XXXXXXXX R1LV0108ESA CHINA -7SI XXXXXXXX R1LV0108ESA → Part name CHINA -7SR → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line:Assembly)	R1LV0108ESA → Part name MALAYSIA -5SI → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line:Assembly)
Assembly Material	Lead frame material	42Alloy	Cu
	Lead plating	Sn-Cu	Sn (pure tin)
	Die bonding	Epoxy paste	Epoxy paste
	Wire bonding	Au	Au
	Mold	Epoxy resin (Halogen-included)	Epoxy resin (Halogen-free)
Final test line		Renesas Semiconductor Beijing (China)	Powertech Technology Inc. (Taiwan)
Tray packing	Packing specification	Current specification	New specification
	Tray	JEDEC Tray with Renesas Logo (TSOP I package size: 8mm x 11.8mm)	JEDEC Tray without Renesas Logo (TSOP I package size: 8mm x 11.8mm)
	Storage number	234pcs/tray	234pcs/tray
	Laying direction of Ics on a tray	Direction from the top left position to the down side (when the position of chamfer in tray's corner is bottom left.)	No change
	Number of trays (Max.)	8 trays + 1 tray (cover)	10 trays + 1 tray (cover)
	Inner box size (LxWxH)	330mm x 152mm x 75mm	351mm x 175mm x 104mm
Tape & Reel packing	Packing specification	Current specification	New specification
	Embossed tape	Current specification	New specification
	Storage number	1,000pcs/reel	1,000pcs/reel
	Inner box size (LxWxH)	288mm x 273mm x 48mm	289mm x 264mm x 60mm
Moisture-proof performance		MSL 2	MSL 3
Shipping label		Current specification	No change in format (Changes in orderable part name, country of origin and MSL display)

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Appendix A (cont.): Change Details

(7) 32pin-sTSOP 2Mb(3V) x8 Part name : R1LV0208BSA

Item		Pre Change	Post Change
Orderable part name		R1LV0208BSA-5SI/-7SI#B0 (Tray packing)	R1LV0208BSA-5SI#B1 (Tray packing)
		R1LV0208BSA-5SI/-7SI#S0 (Tape & Reel packing)	R1LV0208BSA-5SI#S1 (Tape & Reel packing)
Assembly line		Renesas Semiconductor Beijing (China)	Amkor Technology Malaysia (Malaysia)
Country of origin display		CHINA	MALAYSIA
JEITA Package Code		P-TSOP(1)32-8x11.8-0.50	P-TSOP(1)32-8x11.8-0.50
Package marking specification		R1LV0208BSA CHINA -5SI XXXXXXXX R1LV0208BSA → Part name CHINA -7SI → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line:Assembly)	R1LV0208BSA → Part name MALAYSIA -5SI → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line:Assembly)
Assembly Material	Lead frame material	42Alloy	Cu
	Lead plating	Sn-Cu	Sn (pure tin)
	Die bonding	Epoxy paste	Epoxy paste
	Wire bonding	Au	Au
	Mold	Epoxy resin (Halogen-included)	Epoxy resin (Halogen-free)
Final test line		Renesas Semiconductor Beijing (China)	Powertech Technology Inc. (Taiwan)
Tray packing	Packing specification	Current specification	New specification
	Tray	JEDEC Tray with Renesas Logo (TSOP I package size: 8mm x 11.8mm)	JEDEC Tray without Renesas Logo (TSOP I package size: 8mm x 11.8mm)
	Storage number	234pcs/tray	234pcs/tray
	Laying direction of Ics on a tray	Direction from the top left position to the down side (when the position of chamfer in tray's corner is bottom left.)	No change
	Number of trays (Max.)	8 trays + 1 tray (cover)	10 trays + 1 tray (cover)
	Inner box size (LxWxH)	330mm x 152mm x 75mm	351mm x 175mm x 104mm
Tape & Reel packing	Packing specification	Current specification	New specification
	Embossed tape	Current specification	New specification
	Storage number	1,000pcs/reel	1,000pcs/reel
	Inner box size (LxWxH)	288mm x 273mm x 48mm	289mm x 264mm x 60mm
Moisture-proof performance		MSL 2	MSL 3
Shipping label		Current specification	No change in format (Changes in orderable part name, country of origin and MSL display)

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Appendix A (cont.): Change Details

(8) 32pin-TSOP(II) 4Mb(5V) Part name : R1LP0408DSB

Item		Pre Change	Post Change
Orderable part name		R1LP0408DSB-5SI/-5SR/-7SI/-7SR#B0 (Tray packing)	R1LP0408DSB-5SI#B1 (Tray packing)
		R1LP0408DSB-5SI/-5SR/-7SI/-7SR#S0 (Tape & Reel packing)	R1LP0408DSB-5SI#S1 (Tape & Reel packing)
Assembly line		Renesas Semiconductor Beijing (China)	Amkor Technology Malaysia (Malaysia)
Country of origin display		CHINA	MALAYSIA
JEITA Package Code		P-TSOP(2)32-10.16x20.95-1.27	P-TSOP(2)32-10.16x20.95-1.27
Package marking specification		R1LP0408DSB CHINA 5SI XXXXXXXX R1LP0408DSB CHINA 5SR XXXXXXXX R1LP0408DSB CHINA 7SI XXXXXXXX R1LP0408DSB → Part name CHINA 7SR → Electrical characteristics XXXXXXXX → Date code Index mark Country of origin (Back-End Line:Assembly)	R1LP0408DSB → Part name MALAYSIA 5SI → Electrical characteristics XXXXXXXX → Date code Index mark Country of origin (Back-End Line:Assembly)
Assembly Material	Lead frame material	Cu	Cu
	Lead plating	Sn (pure tin)	Sn (pure tin)
	Die bonding	Epoxy paste	Epoxy paste
	Wire bonding	Au	Au
	Mold	Epoxy resin (Halogen-free)	Epoxy resin (Halogen-free)
Final test line		Renesas Semiconductor Beijing (China)	Powertech Technology Inc. (Taiwan)
Tray packing	Packing specification	Current specification	New specification
	Tray	JEDEC Tray with Renesas Logo (TSOP II package size: 10.16mm x 20.95mm)	JEDEC Tray without Renesas Logo (TSOP II package size: 10.16mm x 20.95mm)
	Storage number	117pcs/tray	117pcs/tray
	Laying direction of Ics on a tray	Direction from the top left position to the down side (when the position of chamfer in tray's corner is bottom left.)	No change
	Number of trays (Max.)	8 trays + 1 tray (cover)	10 trays + 1 tray (cover)
	Inner box size (LxWxH)	330mm x 152mm x 75mm	351mm x 175mm x 104mm
Tape & Reel packing	Packing specification	Current specification	New specification
	Embossed tape	Current specification	New specification
	Storage number	1,000pcs/reel	1,000pcs/reel
	Inner box size (LxWxH)	288mm x 273mm x 48mm	289mm x 264mm x 60mm
Moisture-proof performance		MSL 3	MSL 3
Shipping label		Current specification	No change in format (Changes in orderable part name, country of origin)

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Appendix A (cont.): Change Details

(9) 44pin-TSOP(II) 2Mb(3V) x16 Part name : R1LV0216BSB

Item		Pre Change	Post Change
Orderable part name		R1LV0216BSB-5SI/-7SI#B0 (Tray packing)	R1LV0216BSB-5SI#B1 (Tray packing)
		R1LV0216BSB-5SI/-7SI#S0 (Tape & Reel packing)	R1LV0216BSB-5SI#S1 (Tape & Reel packing)
Assembly line		Renesas Semiconductor Beijing (China)	Amkor Technology Malaysia (Malaysia)
Country of origin display		CHINA	MALAYSIA
JEITA Package Code		P-TSOP(2)44-10.16x18.41-0.80	P-TSOP(2)44-10.16x18.41-0.80
Package marking specification		R1LV0216BSB CHINA 5SI XXXXXXXX R1LV0216BSB → Part name CHINA 7SI → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line: Assembly)	R1LV0216BSB → Part name MALAYSIA 5SI → Electrical characteristics XXXXXXXX → Date code Index mark Country of origin (Back-End Line: Assembly)
Assembly Material	Lead frame material	Cu	Cu
	Lead plating	Sn (pure tin)	Sn (pure tin)
	Die bonding	Epoxy paste	Epoxy paste
	Wire bonding	Au	Au
	Mold	Epoxy resin (Halogen-free)	Epoxy resin (Halogen-free)
Final test line		Renesas Semiconductor Beijing (China)	Powertech Technology Inc. (Taiwan)
Tray packing	Packing specification	Current specification	New specification
	Tray	JEDEC Tray with Renesas Logo (TSOP II package size: 10.16mm x 18.41mm)	JEDEC Tray without Renesas Logo (TSOP II package size: 10.16mm x 18.41mm)
	Storage number	135pcs/tray	135pcs/tray
	Laying direction of Ics on a tray	Direction from the top left position to the down side (when the position of chamfer in tray's corner is bottom left.)	No change
	Number of trays (Max.)	8 trays + 1 tray (cover)	10 trays + 1 tray (cover)
	Inner box size (LxWxH)	330mm x 152mm x 75mm	351mm x 175mm x 104mm
Tape & Reel packing	Packing specification	Current specification	New specification
	Embossed tape	Current specification	New specification
	Storage number	1,000pcs/reel	1,000pcs/reel
	Inner box size (LxWxH)	288mm x 273mm x 48mm	289mm x 264mm x 60mm
Moisture-proof performance		MSL 3	MSL 3
Shipping label		Current specification	No change in format (Changes in orderable part name, country of origin)

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Appendix A (cont.): Change Details

(10) 44pin-TSOP(II) 4Mb Fast 5V Part name : R1RP0416DSB

Item		Pre Change	Post Change
Orderable part name		R1RP0416DSB-0PI/-0PR/-2LR/-2PI/-2PR/-2SR#D0 (Tray packing)	R1RP0416DSB-0PI/-0PR/-2LR/-2PI/-2PR/-2SR#D1 (Tray packing)
		R1RP0416DSB-2LR/-2PR#S0 (Tape & Reel packing)	R1RP0416DSB-2LR/-2PR#S1 (Tape & Reel packing)
Assembly line		Renesas Semiconductor Beijing (China)	Amkor Technology Malaysia (Malaysia)
Country of origin display		CHINA	MALAYSIA
JEITA Package Code		P-TSOP(2)44-10.16x18.41-0.80	P-TSOP(2)44-10.16x18.41-0.80
Package marking specification (No change in display of Electrical characteristics)		R1RP0416DSB CHINA 0PI XXXXXXXX R1RP0416DSB → Part name CHINA 2PR → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line: Assembly)	R1RP0416DSB MALAYSIA 0PI XXXXXXXX R1RP0416DSB → Part name MALAYSIA 2PR → Electrical characteristics XXXXXXXX → Date code Index mark Country of origin (Back-End Line: Assembly)
Assembly Material	Lead frame material	42Alloy	Cu
	Lead plating	Sn-Cu	Sn (pure tin)
	Die bonding	Epoxy film	Epoxy paste
	Wire bonding	Au	Au
	Mold	Epoxy resin (Halogen-included)	Epoxy resin (Halogen-free)
Final test line		Renesas Semiconductor Beijing (China)	Powertech Technology Inc. (Taiwan)
Tray packing	Packing specification	Current specification	New specification
	Tray	JEDEC Tray with Renesas Logo (TSOP II package size: 10.16mm x 18.41mm)	JEDEC Tray without Renesas Logo (TSOP II package size: 10.16mm x 18.41mm)
	Storage number	135pcs/tray	135pcs/tray
	Laying direction of Ics on a tray	Direction from the bottm right position to the up side (when the position of chamfer in tray's corner is bottom left.)	Direction from the top left position to the down side (when the position of chamfer in tray's corner is bottom left.)
	Number of trays (Max.)	8 trays + 1 tray (cover)	10 trays + 1 tray (cover)
	Inner box size (LxWxH)	330mm x 152mm x 75mm	351mm x 175mm x 104mm
Tape & Reel packing	Packing specification	Current specification	New specification
	Embossed tape	Current specification	New specification
	Storage number	1,000pcs/reel	1,000pcs/reel
	Inner box size (LxWxH)	288mm x 273mm x 48mm	289mm x 264mm x 60mm
Moisture-proof performance		MSL 2	MSL 3
Shipping label		Current specification	No change in format (Changes in orderable part name, country of origin and MSL display)

Appendix A (cont.): Change Details

(11) 44pin-TSOP(II) 4Mb Fast 3V Part name : R1RW0416DSB

Item		Pre Change	Post Change
Orderable part name		R1RW0416DSB-0PI/-0PR/-2LR/-2PI/-2PR/-2SR/-2UR#D0 (Tray packing)	R1RW0416DSB-0PI/-0PR/-2LR/-2PI/-2PR/-2SR/-2UR#D1 (Tray packing)
		R1RW0416DSB-0PI/-0PR/-2PI/-2PR#S0 (Tape & Reel packing)	R1RW0416DSB-0PI/-0PR/-2PI/-2PR#S1 (Tape & Reel packing)
Assembly line		Renesas Semiconductor Beijing (China)	Amkor Technology Malaysia (Malaysia)
Country of origin display		CHINA	MALAYSIA
JEITA Package Code		P-TSOP(2)44-10.16x18.41-0.80	P-TSOP(2)44-10.16x18.41-0.80
Package marking specification (No change in display of Electrical characteristics)		R1RW0416DSB CHINA 0PI XXXXXXXX R1RW0416DSB → Part name CHINA 2PR → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line: Assembly)	R1RW0416DSB MALAYSIA 0PI XXXXXXXX R1RW0416DSB → Part name MALAYSIA 2PR → Electrical characteristics XXXXXXXX → Date code Index mark Country of origin (Back-End Line: Assembly)
Assembly Material	Lead frame material	42Alloy	Cu
	Lead plating	Sn-Cu	Sn (pure tin)
	Die bonding	Epoxy film	Epoxy paste
	Wire bonding	Au	Au
	Mold	Epoxy resin (Halogen-included)	Epoxy resin (Halogen-free)
Final test line		Renesas Semiconductor Beijing (China)	Powertech Technology Inc. (Taiwan)
Tray packing	Packing specification	Current specification	New specification
	Tray	JEDEC Tray with Renesas Logo (TSOP II package size: 10.16mm x 18.41mm)	JEDEC Tray without Renesas Logo (TSOP II package size: 10.16mm x 18.41mm)
	Storage number	135pcs/tray	135pcs/tray
	Laying direction of Ics on a tray	Direction from the bottm right position to the up side (when the position of chamfer in tray's corner is bottom left.)	Direction from the top left position to the down side (when the position of chamfer in tray's corner is bottom left.)
	Number of trays (Max.)	8 trays + 1 tray (cover)	10 trays + 1 tray (cover)
	Inner box size (LxWxH)	330mm x 152mm x 75mm	351mm x 175mm x 104mm
Tape & Reel packing	Packing specification	Current specification	New specification
	Embossed tape	Current specification	New specification
	Storage number	1,000pcs/reel	1,000pcs/reel
	Inner box size (LxWxH)	288mm x 273mm x 48mm	289mm x 264mm x 60mm
Moisture-proof performance		MSL 2	MSL 3
Shipping label		Current specification	No change in format (Changes in orderable part name, country of origin and MSL display)

Appendix A (cont.): Change Details

(12) 48pin-TSOP(I) 16Mb 3V Part name : R1LV1616HSA

Item		Pre Change	Post Change
Orderable part name		R1LV1616HSA-4SI/-5SI#B0 (Tray packing)	R1LV1616HSA-4SI/-5SI#B1 (Tray packing)
		R1LV1616HSA-4SI/-5SI#S0 (Tape & Reel packing)	R1LV1616HSA-4SI/-5SI#S1 (Tape & Reel packing)
Assembly line		Renesas Semiconductor Beijing (China)	Amkor Technology Malaysia (Malaysia)
Country of origin display		CHINA	MALAYSIA
JEITA Package Code		P-TSOP(1)48-12x18.4-0.50	P-TSOP(1)48-12x18.4-0.50
Package marking specification (No change in display of Electrical characteristics)		Index mark R1LV1616HSA CHINA -4SI XXXXXXXX R1LV1616HSA → Part name CHINA -5SI → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line:Assembly)	Index mark R1LV1616HSA MALAYSIA -4SI XXXXXXXX R1LV1616HSA → Part name MALAYSIA -5SI → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line:Assembly)
Assembly Material	Lead frame material	42Alloy	Cu
	Lead plating	Sn-Cu	Sn (pure tin)
	Die bonding	Epoxy film	Epoxy paste
	Wire bonding	Au	Au
	Mold	Epoxy resin (Halogen-included)	Epoxy resin (Halogen-free)
Final test line		Renesas Semiconductor Beijing (China)	Powertech Technology Inc. (Taiwan)
Tray packing	Packing specification	Current specification	New specification
	Tray	JEDEC Tray with Renesas Logo (TSOP I package size: 12mm x 18.4mm)	JEDEC Tray without Renesas Logo (TSOP I package size: 12mm x 18.4mm)
	Storage number	96pcs/tray	96pcs/tray
	Laying direction of Ics on a tray	Direction from the bottm right position to the up side (when the position of chamfer in tray's corner is bottom left.)	Direction from the top left position to the down side (when the position of chamfer in tray's corner is bottom left.)
	Number of trays (Max.)	8 trays + 1 tray (cover)	10 trays + 1 tray (cover)
	Inner box size (LxWxH)	330mm x 152mm x 75mm	351mm x 175mm x 104mm
Tape & Reel packing	Packing specification	Current specification	New specification
	Embossed tape	Current specification	New specification
	Storage number	1,000pcs/reel	1,000pcs/reel
	Inner box size (LxWxH)	347mm x 368mm x 54mm	362mm x 340mm x 60mm
Moisture-proof performance		MSL 2	MSL 3
Shipping label		Current specification	No change in format (Changes in orderable part name, country of origin and MSL display)

Appendix A (cont.): **Change Details**

(13) 48pin-TSOP(I) 32Mb 3V Part name : R1LV3216RSA

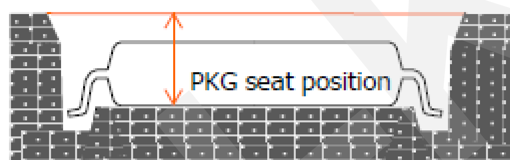
Item		Pre Change	Post Change
Orderable part name		R1LV3216RSA-5SI#B0 (Tray packing)	R1LV3216RSA-5SI#B1 (Tray packing)
		R1LV3216RSA-5SI#S0 (Tape & Reel packing)	R1LV3216RSA-5SI#S1 (Tape & Reel packing)
Assembly line		Renesas Semiconductor Beijing (China)	Amkor Technology Malaysia (Malaysia)
Country of origin display		CHINA	MALAYSIA
JEITA Package Code		P-TSOP(1)48-12x18.4-0.50	P-TSOP(1)48-12x18.4-0.50
Package marking specification		Index mark R1LV3216RSA → Part name CHINA -5SI → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line:Assembly)	Index mark R1LV3216RSA → Part name MALAYSIA -5SI → Electrical characteristics XXXXXXXX → Date code Country of origin (Back-End Line:Assembly)
Assembly Material	Lead frame material	42Alloy	Cu
	Lead plating	Sn-Cu	Sn (pure tin)
	Die bonding	Epoxy film	Epoxy paste
	Wire bonding	Au	Au
	Mold	Epoxy resin (Halogen-included)	Epoxy resin (Halogen-free)
Final test line		Renesas Semiconductor Beijing (China)	Powertech Technology Inc. (Taiwan)
Tray packing	Packing specification	Current specification	New specification
	Tray	JEDEC Tray with Renesas Logo (TSOP I package size: 12mm x 18.4mm)	JEDEC Tray without Renesas Logo (TSOP I package size: 12mm x 18.4mm)
	Storage number	96pcs/tray	96pcs/tray
	Laying direction of Ics on a tray	Direction from the top left position to the down side (when the position of chamfer in tray's corner is bottom left.)	No change
	Number of trays (Max.)	8 trays + 1 tray (cover)	10 trays + 1 tray (cover)
	Inner box size (LxWxH)	330mm x 152mm x 75mm	351mm x 175mm x 104mm
Tape & Reel packing	Packing specification	Current specification	New specification
	Embossed tape	Current specification	New specification
	Storage number	1,000pcs/reel	1,000pcs/reel
	Inner box size (LxWxH)	347mm x 368mm x 54mm	362mm x 340mm x 60mm
Moisture-proof performance		MSL 2	MSL 3
Shipping label		Current specification	No change in format (Changes in orderable part name, country of origin and MSL display)

Appendix B: JEDEC Tray and Tape & Reel Unification Details

(1) Change the specification of the JEDEC tray

- The package seat position in tray pocket is to be changed (see below).
- No change in outline dimensions and pocket pitch for JEDEC tray.

	Package type	Pre Change		Post Change	
		Tray type name	PKG seat position (mm)	Tray type name	PKG seat position (mm)
JEDEC tray	28pin-TSOP(I), 32pin-sTSOP	L196-10	2.0	EA50813	1.85
	32pin-TSOP(I)	L196-20	2.1	EA50820	1.5
	32pin-TSOP(II)	L196-93	2.0	EA80817	2.0
	44pin-TSOP(II)	L196-92	2.0	EA80815	2.0
	48pin-TSOP(I)	L196-126	2.0	EA51220	1.5



Cross section of tray pocket

(2) Laying direction of ICs on a tray

- Regarding R1RP0416DSB, R1RW0416DSB and R1LV1616HSA, laying direction of ICs on a tray is to be changed (see below).
- No change in other products, because the direction is already same as the "Post Change" as shown below.

	Pre Change	Post Change
Laying direction of ICs on a tray	Direction	Direction
Orderable part name	R1RP0416DSB-xxx #D0 R1RW0416DSB-xxx #D0 R1LV1616HSA-xxx #B0	R1RP0416DSB-xxx #D1 R1RW0416DSB-xxx #D1 R1LV1616HSA-xxx #B1

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Appendix B (cont.): JEDEC Tray and Tape & Reel Unification Details

(3) Change the specification of the Tape & Reel

- The package seat position in taping pocket is to be changed (see below).
- No change in width and pitch of embossed carrier tape.
- No change in reel diameter.

	Package type	Pre Change		Post Change	
		Emboss type name	PKG seat position (mm)	Emboss type name	PKG seat position (mm)
Embossed carrier tape	28pin-TSOP(I), 32pin-sTSOP	MTE2412H-28P2C-A	1.3	TSOP28	1.4
	32pin-TSOP(I)	MTE3212H-32P3H-A	1.25	TSOP32-1	1.4
	32pin-TSOP(II)	MTE3216H-50P3W	1.2	TSOP32-6	1.3
	44pin-TSOP(II)	MTE3216H-28P3Y	1.2	TSOP44-3	1.3
	48pin-TSOP(I)	TE3216-16P	1.2	TSOP48-3	1.2

Cross section of taping pocket

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