Product Advisory (PA)

Subject: Die Thickness Change and Add Additional Manufacturing Locations for DDR5 RCD
Publication Date: 6/16/2021
Effective Date: Follow Implementation Date per below Table.
Revision Description:
Revision 1: This revision is to update Qualification results on ASECL 10 mil die thickness, which was completed successfully on June 3, 2021. In addition, the estimated qual completion date on SCK is extended to Jul 16, 2021.

Description of Change:
Renesas is changing the die thickness from 8mil to 10mil for better warpage performance. Internal qualification on the first lot has been successfully completed. Refer attach Qualification report.

Refer attachment for more details on die thickness changes.

In addition, we are adding few manufacturing locations for this product as shown below to allow manufacturing flexibility and achieve minimal dual source. No change to foundry location.

There will be no change in the moisture sensitive level.

Assembly Location	Test Location	Die Thickness	Remark	Estimated Qual Completion Date	Implementation Date
ASEC, Taiwan	REPG, Malaysia	8 mil	Existing	Passed	Implemented
ASEC, Taiwan	REPG, Malaysia	10 mil	New	Passed	Jul 22, 2021
ASEC, Taiwan	ASEK, Taiwan	10 mil	New	Passed	Jul 22, 2021
SCK, Korea	REPG, Malaysia	10 mil	New	Jul 16, 2021	Jul 22, 2021
SCK, Korea	ASEK, Taiwan	10 mil	New	Jul 16, 2021	Jul 22, 2021
ATK, Korea	REPG, Malaysia	10 mil	New	Sep 2, 2021	Oct 2, 2021
ATK, Korea	ASEK, Taiwan	10 mil	New	Sep 2, 2021	Oct 2, 2021

Material Sets	Existing Assembly ASEC, Taiwan	Existing Assembly SCK, Korea	Alternate Assembly Amkor, Korea
Die Bump	Copper Pillar 37Cu/3Ni/27SnAg	Copper Pillar 37Cu/3Ni/27SnAg	Copper Pillar 37Cu/3Ni/27SnAg
Mold Compound	EME-G311A Type C	KE-G1250FC-K	EME-G355
Substrate/Supplier	GHPL830NS+SR1 (UMTC)	GHPL830NS+SR1 (SIMMTECH)	GHPL830NS+SR1 (UMTC)
Solder Balls	0.3mm LF35	0.3mm LF35	0.3mm LF35

Affected Product List: 5RCD0148HC3AVG, 5RCD0148HC3AVGI, 5RCD0148HC3AVG8, 5RCD0148HC3AVGI8

Reason for Change:
To provide manufacturing flexibility and warpage improvement.

Impact on Fit, Form, Function, Quality & Reliability:
The change will have no impact on the fit, function, quality and reliability.

Product Identification:
The cutoff datecode for ASEC with 10mil die thickness material is 2120 onwards.
Traceable through assembly lot# prefix for assembly location where:

RC denote ASEC
B denote SCK
D denote Amkor Korea

Test location traceable from assembly lot#

Qualification Status: Completed for 1st lot. Refer Appendix A
Sample Availability Date: 5/3/2021
Device Material Declaration: Available upon request

Questions or requests pertaining to this change notice, including additional data or samples, must be sent to Renesas within 30 days of the publication date.

For additional information regarding this notice, please contact idt-pcn@lm.renesas.com

Package Qualification Report

Date: 6/11/2021

Product : 5RCD0148			
Fab Base:	AD903T	Process Technology:	CLN28HPC, 1P8M
Package Types:	FCCSP 240	Fab Location:	TSMC
Qual Plan:	P21-01-013	Assembly Location:	ASEC - Taiwan

Test Description	**Conditions**	**Sample Size**	**Results (rej/SS)**	**Comments**
Temperature Cycling [1]	JESD22-A104, -55°C to +125°C, 1000 cycles	77 x 3 lots	0/77, 3 lots	Pass
Highly Accelerated Temperature and Humidity stress (Biased) [1]	JESD22-A110, +130°C, 85% R.H., Vcc_{max},96 hrs	77 x 3 lots	0/77, 3 lots	Pass
Unbiased Highly Accelerated Temperature and Humidity stress (Unbiased) [1]	JESD22-A118, +130°C, 85% R.H., 96 hrs	77 x 3 lots	0/77, 3 lots	Pass
High Temperature Storage Life	JESD22-A103, +150°C, 1000 hrs	77 x 3 lots	0/77, 3 lots	Pass
Physical Dimension	JESD22-B100 (Per applicable Renesas Package Outline Drawing)	30 x 3 lots	0/30, 3 lots	Pass
Solder Ball Shear	JESD22-B117	5 x 3 lots	0/5, 3 lots	Pass
Moisture Classification	J-STD-020	77 x 3 lots	0/77, 3 lots	Pass

Note:

1. With preconditioning per JESD22-A113, MSL3 (260°C)