

## Product Advisory (PA)

**Subject:** Correction to the Renesas HSx-303AxH-x and HSx-303BxH-x Datasheets

**Publication Date:** 9/15/2020

**Effective Date:** 9/15/2020

### Revision Description:

Initial Release

### Description of Change:

This notice is to inform you of datasheet corrections as below;

1. Updated Lid Characteristics potential from Ground to Floating in Table 1.
2. Added Note 3&4 in Section 1.1.

Corrections are reflected in Appendix A of the notice.

### Products Impacted by the change:

Renesas Part Number	Ordering Number	Renesas Part Number	Ordering Number	Renesas Part Number	Ordering Number
HS1-303ARH-8	5962F9581304QCC	HS0-303ARH/SAMPLE	N/A	HS0-303BEH-Q	5962F9581307V9A
HS9-303ARH-8	5962F9581304QXC	HS1-303ARH/PROTO	N/A	HS1-303BRH-Q	5962F9581305VCC
HS0-303ARH-Q	5962F9581304V9A	HS9-303ARH/PROTO	N/A	HS1-303BEH-Q	5962F9581307VCC
HS0-303AEH-Q	5962F9581306V9A	HS9-303AEH-Q	5962F9581306VXC	HS9-303BRH-Q	5962F9581305VXC
HS1-303ARH-Q	5962F9581304VCC	HS1-303BRH-8	5962F9581305QCC	HS0-303BRH/SAMPLE	N/A
HS1-303AEH-Q	5962F9581306VCC	HS9-303BRH-8	5962F9581305QXC	HS1-303BRH/PROTO	N/A
HS9-303ARH-Q	5962F9581304VXC	HS0-303BRH-Q	5962F9581305V9A	HS9-303BRH/PROTO	N/A
				HS9-303BEH-Q	5962F9581307VXC

### Reason for Change:

Change corrects the datasheet to reflect the actual product performance. Details regarding the change are contained within Appendix A, for an updated datasheet please contact your local sales or marketing representative.

### Impact on fit, form, function, quality & reliability:

The change will have no impact on the form, fit, function, quality, reliability and environmental compliance of the devices.

### Product Identification:

There have been no changes to the product, this is a documentation correction only. There will be no change in the external marking of the packaged products.

**Qualification status:** Not Applicable, correction only

**Sample availability:** 9/15/2020

**Device material declaration:** Available upon request

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

For additional information regarding this notice, please contact your regional change coordinator (below)			
Americas: <a href="mailto:PCN-US@Renesas.COM">PCN-US@Renesas.COM</a>	Europe: <a href="mailto:PCN-EU@Renesas.COM">PCN-EU@Renesas.COM</a>	Japan: <a href="mailto:PCN-JP@Renesas.COM">PCN-JP@Renesas.COM</a>	Asia Pac: <a href="mailto:PCN-APAC@Renesas.COM">PCN-APAC@Renesas.COM</a>

**Appendix A:**

- Updated Lid Characteristics potential from Ground to Floating in Table 1

**FROM:**
**2. Die Characteristics**
**Table 1. Die and Assembly Related Information**

Die Information	
Dimensions	2690 $\mu$ m x 5200 $\mu$ m (106mils x 205mils) Thickness: 483 $\mu$ m $\pm$ 25.4 $\mu$ m (19mils $\pm$ 1mil)
Interface Materials	
Glassivation	Type: PSG (Phosphorous Silicon Glass) Thickness: 8.0k $\text{\AA}$ $\pm$ 1.0k $\text{\AA}$
Top Metallization	Type: AlSiCu Thickness: 16.0k $\text{\AA}$ $\pm$ 2k $\text{\AA}$
Substrate	Radiation Hardened Silicon Gate, Dielectric Isolation
Backside Finish	Silicon
Assembly Information	
Substrate Potential	Unbiased (DI)
Additional Information	
Worst Case Current Density	<2.0 x 10 <sup>5</sup> A/cm <sup>2</sup>
Transistor Count	332
Weight of Packaged Device	0.31 grams
Lid Characteristics	Finish: Gold Potential: Grounded, tied to package pin 2

**TO:**
**2. Die Characteristics**
**Table 1. Die and Assembly Related Information**

Die Information	
Dimensions	2690 $\mu$ m x 5200 $\mu$ m (106mils x 205mils) Thickness: 483 $\mu$ m $\pm$ 25.4 $\mu$ m (19mils $\pm$ 1mil)
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Substrate	Radiation Hardened Silicon Gate, Dielectric Isolation
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Assembly Information	
Substrate Potential	Unbiased (DI)
Additional Information	
Worst Case Current Density	<2.0 x 10 <sup>5</sup> A/cm <sup>2</sup>
Transistor Count	332
Weight of Packaged Device	0.31 grams
Lid Characteristics	Finish: Gold Potential: Floating

## 2. Added Note 3&4 in Section 1.1

### 1. Overview

#### 1.1 Ordering Information

Ordering Number (Note 2)	Part Number (Note 1)	Radiation Hardness (Total Ionizing Dose)	Temp. Range (°C)	Package (RoHS Compliant)	Pkg. Dwg. #
5962F9581304QCC	HS1-303ARH-8	HDR to 300krad(Si)	-55 to +125	14 LD SBDIP	D14.3
5962F9581304QXC	HS9-303ARH-8		-55 to +125	14 LD Flatpack	K14.A
5962F9581304V9A	HS0-303ARH-Q (Note 3)		-55 to +125	Die	
5962F9581304VCC	HS1-303ARH-Q		-55 to +125	14 LD SBDIP	D14.3
5962F9581304VXC	HS9-303ARH-Q		-55 to +125	14 LD Flatpack	K14.A
5962F9581306V9A	HS0-303AEH-Q (Note 3)	HDR to 300krad(Si), LDR to 50krad(Si)	-55 to +125	Die	
5962F9581306VCC	HS1-303AEH-Q		-55 to +125	14 LD SBDIP	D14.3
5962F9581306VXC	HS9-303AEH-Q		-55 to +125	14 LD Flatpack	K14.A
N/A	HS0-303ARH/SAMPLE (Notes 3, 4)	N/A	-55 to +125	Die	
N/A	HS1-303ARH/PROTO (Note 4)		-55 to +125	14 LD SBDIP	D14.3
N/A	HS9-303ARH/PROTO (Note 4)		-55 to +125	14 LD Flatpack	K14.A
5962F9581305QCC	HS1-303BRH-8	HDR to 300krad(Si)	-55 to +125	14 LD SBDIP	D14.3
5962F9581305QXC	HS9-303BRH-8		-55 to +125	14 LD Flatpack	K14.A
5962F9581305V9A	HS0-303BRH-Q (Note 3)		-55 to +125	Die	
5962F9581305VCC	HS1-303BRH-Q		-55 to +125	14 LD SBDIP	D14.3
5962F9581305VXC	HS9-303BRH-Q		-55 to +125	14 LD Flatpack	K14.A
5962F9581307V9A	HS0-303BEH-Q (Note 3)	HDR to 300krad(Si), LDR to 50krad(Si)	-55 to +125	Die	
5962F9581307VCC	HS1-303BEH-Q		-55 to +125	14 LD SBDIP	D14.3
5962F9581307VXC	HS9-303BEH-Q		-55 to +125	14 LD Flatpack	K14.A
N/A	HS0-303BRH/SAMPLE (Notes 3, 4)	N/A	-55 to +125	Die	
N/A	HS1-303BRH/PROTO (Note 4)		-55 to +125	14 LD SBDIP	D14.3
N/A	HS9-303BRH/PROTO (Note 4)		-55 to +125	14 LD Flatpack	K14.A

#### Notes:

- These Pb-free Hermetic packaged products employ 100% Au plate - e4 termination finish, which is RoHS compliant and compatible with both SnPb and Pb-free soldering operations.
- Specifications for Rad Hard QML devices are controlled by the Defense Logistics Agency Land and Maritime (DLA). The SMD numbers listed must be used when ordering.
- Die product tested at  $T_A = +25^{\circ}\text{C}$ . The wafer probe test includes functional and parametric testing sufficient to make the die capable of meeting the electrical performance outlined in the DLA SMD.
- The /PROTO and /SAMPLE are not rated or certified for Total Ionizing Dose (TID) or Single Event Effect (SEE) immunity. These parts are intended for engineering evaluation purposes only. The /PROTO parts meet the electrical limits and conditions across temperature specified in the DLA SMD and are in the same form and fit as the qualified device. The /SAMPLE parts are capable of meeting the electrical limits and conditions specified in the DLA SMD. The /SAMPLE parts do not receive 100% screening across temperature to the DLA SMD electrical limits. These part types do not come with a Certificate of Conformance because they are not DLA qualified devices.