Product Change Notice

PCN Tracking Number: P1210050b

(Japan PCN # CISdoc12-207~210)

Customer: **Please fill in customer's name here**

Renesas Product Type: 27x27mm BGA packaged SH-4products(using a package of JEITA Code:P-BGA256-27x27-1.27, Renesas Code:PRBG0256DE-B)

D6417750RBP200DV **D6417750RBP240DV**
D6417751RBP200DV **D6417751RBP240DV**

Change Description: Switching to alternative BGA package
When switching to the alternative packaged products, Renesas will maintain the compatibility regarding electrical characteristics, terminal placement (pin-out) and package size (there is a possibility that the mounting height is 0.1mm higher). Although the BGA package appearance is changing, the die inside is the same as current products and will not be altered.

The quality level of current products is "High Quality Level". The alternative package products will be "Standard Quality Level".

Last Time Buy Order for the "High Quality Level" products is March 22, 2013.

Reason for Change: The BGA Substrate supplier can no longer manufacture the current BGA substrate.

Schedule of Change: April 2013

Data Attached:
1) Products to be switched from current to alternative package with condition.
2) Difference between High Quality Level and Standard Quality Level
3) Difference between current products and the corresponding alternative package 4 products with condition
4) Difference of Appearance and Material
5) Difference of Measurement and Tolerance
6) Reliability Data will be available February 2013

Need Response by:
1) Initial response and sample request by December 18, 2012
2) Final approval by March 29, 2013

"Written approval or written receipt and status of PCN must be received by Renesas Electronics within 30 days of the issue date of this PCN. Otherwise Renesas Electronics will consider this change approved".

In case of any questions, please contact your Renesas Electronics sales representative.

Initiator	Title	Date	Contact Information
Eric Bedes	Senior Manager America Quality Assurance Center	11/13/12	PCN@dm.Renesas.com

RESPONSE:

__ ACCEPTABLE BY:_________________________________DATE:____________
TITLE:____

__ UNACCEPTABLE

Reason (if unacceptable) ___________________________________

__ NOT APPLICABLE ____

Products to be switched from current to alternative package with condition (4 P/Ns)

Correspondence Table of the Current Product and Alternative Package Product

class	P/N of Current Products	P/N of Alternative Pckage Products	Remark
SH7750R	D6417750R**BP**200DV	D6417750R**BA**240HV	Pb free and Halogen free Ta:-40 to +85 degrees AC/DC characteristics of both current 200MHz and 240MHz products are guaranteed. Standard quality level
	D6417750R**BP**240DV		
SH7751R	D6417751R**BP**200DV	D6417751R**BA**240HV	Pb free and Halogen free Ta:-40 to +85 degrees AC/DC characteristics of both current 200MHz and 240MHz products are guaranteed. Standard quality level
	D6417751R**BP**240DV		

"BP" in the P/N of current products is changed into "BA" in the P/N of alternative package products.
Both current 200MHz and 240MHz products will be integrated into a new 240MHz product.
New 240MHz products can guarantee the electrical characteristics of current 200MHz products.
Quality level of current products is "High Quality Level". On the other hand that of alternative package products is "Standard Quality Level".

Difference between "Standard Quality Level" & "High Quality Level"

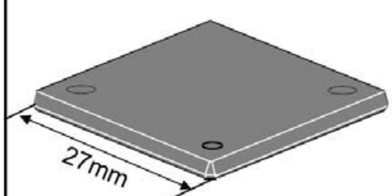
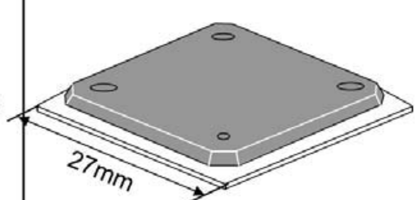
Quality Level	Typical usage
Standard	Computers, OA equipment, **communication equipment**, **measuring equipment**, audio-visual equipment, electric appliances, **machine tools**, personal equipment, and **industrial robots**
High Quality	Transportation equipment (**vehicles**, electric trains, boats/ships, etc.), traffic signal equipment, disaster-prevention/security devices, safety devices, etc.

Reference: Reliability Handbook Section 1.3 Table1.1
http://www.renesas.com/media/products/common_info/reliability/reliability_handbook/pdf/reliability_handbook_101119.pdf

Specification Difference between Current Product and Alternative Package Product 2

	項目	Current Products		Alternative Package Products with Condition
SH7750R	P/N	D6417750RBP200DV	D6417750RBP240DV	D6417750RBA240HV
	Spply Voltage	VDDQ:3.0 to 3.6V		200MHz Operation:VDDQ:3.0 to 3.6V
		VDD :1.35 to 1.6V		200MHzOperation:VDD :1.35 to1.6V
			VDDQ:3.0 to 3.6V	240MHz Operation:VDDQ:3.0 to 3.6V
			VDD :1.4 to 1.6V	240MHz Operation:VDD :1.4 to1.6V
	Op. Frequency	200MHz	240MHz	200MHz/240MHz common
	AC/DC	As written in the manual	As written in the manual	200MHz/240MHz As written in the each manual
	Temperature Range	Ta:-40℃～+85℃	Ta:-40℃～+85℃	Same as left
	Quality Level	High Quality Level	High Quality Level	Standard Quality Level
	Marking Spec.	Laser Mark	Laser Mark	Same as left
	RoHS	Pb free	Pb free	Same as left
		–	–	Halogen free
SH7751R	P/N	D6417751RBP200DV	D6417751RBP240DV	D6417751RBA240HV
	Spply Voltage	VDDQ:3.0 to 3.6V		200MHz Operation:VDDQ:3.0 to 3.6V
		VDD :1.35 to 1.6V		200MHzOperation:VDD :1.35 to1.6V
			VDDQ:3.0 to 3.6V	240MHz Operation:VDDQ:3.0 to 3.6V
			VDD :1.4 to 1.6V	240MHz Operation:VDD :1.4 to1.6V
	Op. Frequency	200MHz	240MHz	200MHz/240MHz common
	AC/DC	As written in the manual	As written in the manual	200MHz/240MHz As written in the each manual
	Temperature Range	Ta:-40℃～+85℃	Ta:-40℃～+85℃	Same as left
	Quality Level	High Quality Level	High Quality Level	Standard Quality Level
	Marking Spec.	Laser Mark	Laser Mark	Same as left
	RoHS	Pb free	Pb free	Same as left
		–	–	Halogen free

Difference of Appearance and Material between current package and the corresponding alternative package

	Current Product	Alternative Package Product
Package Appearance	BGA27x27-256pin (1.27mm pitch) 4row (20x20)	BGA27x27-256pin (1.27mm pitch) 4row (20x20)
		
Substrate-Chip Connection	Wire-bonding (Au)	Wire-bonding (Au)
Interposer	Organic Substrate(4 layers)	Organic Substrate(4 layers)
Sealing Resin	Epoxy Resin	Epoxy Resin
Solder Balls(Pb free)	Sn-3Ag-0.5Cu φ0.75mm	Sn-3Ag-0.5Cu φ0.75mm

Comparison of Dimensions

<table>
<tr><th></th><th>Current Product</th><th>Alternative Package Product (Preliminary)</th></tr>
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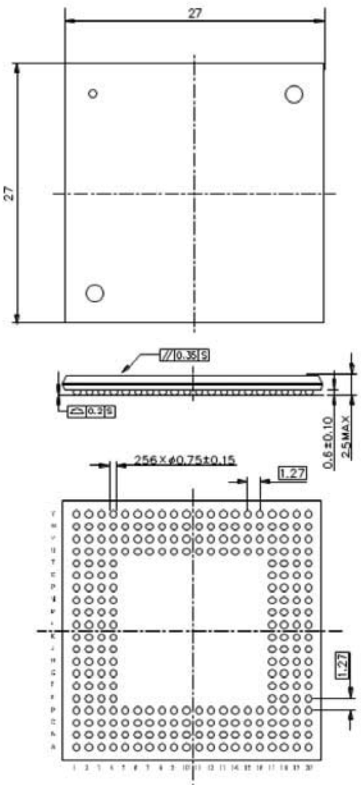
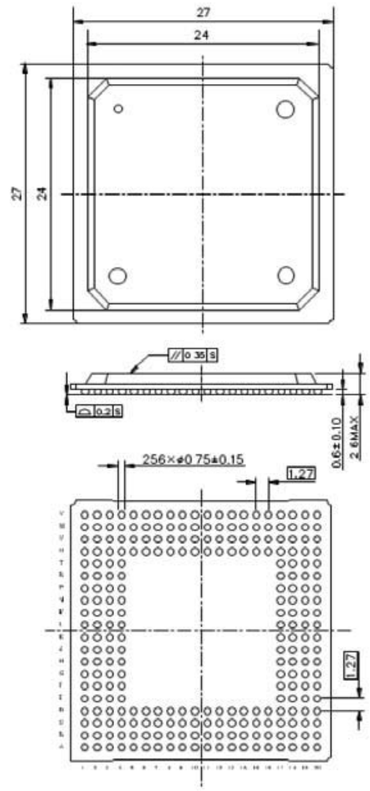
sions</td><td>
</td><td>
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