

To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: <http://www.renesas.com>

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RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-SH7-A717A/E	Rev.	1.00
Title	About R4S76191(SH7619 2ndCut)		Information Category	Product Generation Change		
Applicable Product	All series of SH7619 [R4S7619(0/1)(B/N/D/W)125BG(V)]	Lot No.	Reference Document	SH7619 Group Hardware Manual Rev5.0 (REJ09B0237-0500)		
		All lots				

We would like to inform valued customers of the in using SH7619 Group as follows.

Renesas now producing 2ndCut of R4S7619 series corrected the several limitations, this time we would like to combine our production of 1stCut to 2ndCut within a few years. Then please choose 2ndCut one, when you would newly use. 2ndCut has a software compatibility with 1stCut. Please refer the following pages about 2ndCut itself.

-Note-

1. Combining of production

(1) Combining procedures of production

Stopping the merchandizing 1stCut to newly project of our customers. (Now)

Please replace 1stCut to 2ndCut . (step by step)

EOL of 1stCut. (targeting year 2011)

We plan to take about 3 years to replacing cuts before EOL of 1stCut.

If you use SH7619 continuously farther more, please replace to 2ndCut within the period.

1.2. List of replacing type code.

No.	Type code of 1stCut	Corresponding type code of 2ndCut
1	R4S76190B125BGV	R4S76191B125BGV
2	R4S76190N125BGV	R4S76191N125BGV
3	R4S76190D125BGV	R4S76191D125BGV
4	R4S76190W125BGV	R4S76191W125BGV
5	R4S76190B125BG	none*
6	R4S76190N125BG	none*
7	R4S76190D125BG	none*
8	R4S76190W125BG	none*

Note* Type codes without "V" means "including Pb"(The balls of the package are Pb array), while replacing this time, we would provide no Pb version only.

2. About R4S76191(SH7619 2ndCut)

R4S76191(SH7619 2ndCut) is a version, corrected flow control of R4S76190(SH7619 1stCut).

You could identify its type codes and marks of the package.

The details of 2ndCut are not provided in the hardware manual Rev.5.0. Please refer following details.

	2ndCut	1stCut
Type code	R4S76191*****	R4S76190*****
Mark character	Mask Code=1	No mask code
function	Removing the limitation of a technical update (TN-SH7-A574A/E)	-
Package outline	Same as 1stCut	-

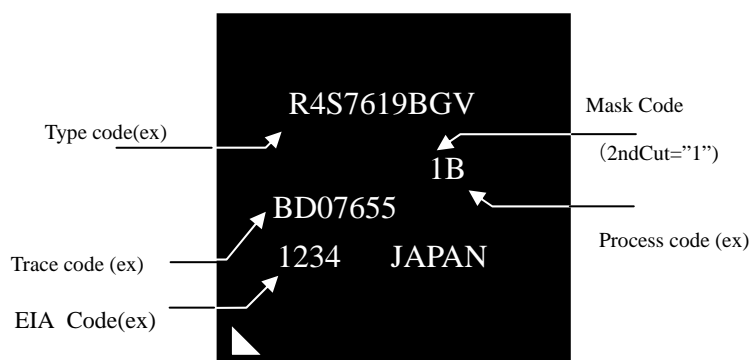


Fig. Mark specification of 2ndCut.

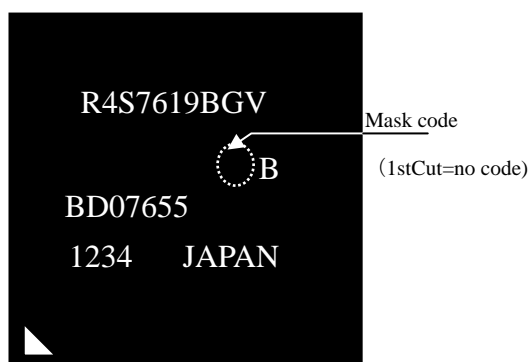


Fig. Mark specification of 1stCut.

3. Flow Control Defect

3.1. Defect of 1stCut (Technical update TN-SH7-A574A/E)

The flow control defects are the following two.

- (1) Once a PAUSE frame is received, each time when the local station receives a normal unicast frame (non-PAUSE frame without a CRC error) , the TIME parameter specified by the PAUSE frame that has been previously received is incorrectly applied each time. As a result, unnecessary waiting time is generated each before a transmission to slow down the transmission throughput. The TIME parameter value is maintained until another PAUSE frame is received.
- (2) In a normal operation when a PAUSE frame is received from another station, a waiting time is generated before non-PAUSE frames from local to another station, and no waiting time before transmission of a PAUSE frame. Whereas in this defect, there is a waiting time before transmission of PAUSE frames , and incorrectly also before transmission of non-PAUSE ones

3.2. Conditions of generating defect

This defect will be generated under following conditions.

- (3) Flow control defect 1: when a PAUSE frame is received while the receiving flow control is enabled in full-duplex mode (the RXF bit in ECMR=1)
- (4) Flow control defect 2: when a PAUSE period is generated by receiving a PAUSE frame from another station while the transmitting/receiving flow control is enabled in full-duplex mode (the TXF/RXF bit in ECMR=1).

3.3. Corrected function of 2ndCut

Above term (1)&(2) are corrected in 2ndCut.

There is no adaption of the TIME parameter repeatedly inside the SH-micon indicated by the PAUSE frame from another station, and no unnecessary waiting time before transmission. Also a transmission of PAUSE frame is available when it is in the PAUSE period.

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