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 Electronics Corporation

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RENESAS

RENESAS TECHNICAL UPDATE

Classification of Production	MPU&MCU			No	TN-SH7-481A/E	Rev	1
THEME	SH7727 Logic limitation Fix and Part No. Update (C-Mask version)		Classification of Information	1. Spec change 2. Supplement of Documents 3. Limitation of Use ④ Change of Mask 5. Change of Production Line			

PRODUCT NAME	HD6417727	Lot No.		Reference Documents	SH7727 Hardware Manual Rev.4.0 ADE-602-209C	term of validity	
		All				Eternity	

1. Improvement Detail

As for HD6417727C, the following points are improved from HD6417727 or HD6417727B. Accordingly, please exchange HD6417727(First Mask version), and HD6417727B(B-Mask version) to HD6417727C (C-Mask version).

(1) SH7727 usage notice on SIOF (Semiconductor Technical Update [TN-SH7-405A/E])

　① [HD6417727]　　During transmit operation with DMA transfer, DMA transfer request signal
　　　　　　　　　　 is stopped to output unexpectedly from SIOF and underflow error occurs.

　　[HD6417727B,C] Transmit operation with DMA transfer works correctly.

　② [HD6417727]　　 During receive operation with DMA internal peripheral module request mode,
　　　　　　　　　　 some data may be lost , due to overflow error caused on the manner that
　　　　　　　　　　 only one data transfer request exceeding watermark of receive FIFO.

　　[HD6417727B,C] It becomes possible to submit transfer request to all of the data which
　　　　　　　　　　 exceeded watermark.

　③ [HD6417727]　　During receive operation, some data may be lost when the writing occurs
　　　　　　　　　　 in the reading from receive FIFO.

　　[HD6417727B,C]　Receive data lost does not occur.

(2) Usage notice about PTG0 of SH7727　(Semiconductor Technical Update [TN-SH7-370A/E])

　　[HD6417727]　Port G is controlled by bit 3,0 (PG1MD1, PG0MD0) of Port Control Register(PGCR).

　　[HD6417727B,C]　It is possible to control by bit1,0 (PG0MD1, PG0MD0) correctly.

(3) SH7727 Host Controller Incorrect Disconnect Detection
　　　　　　　　　　(Semiconductor Technical Update [TN-SH7-467A/E])

　　[HD6417727,27B] SH7727 USB Host Controller detects SE0 incorrectly in communicating, and
　　　　consequently it may detect a device disconnect event in spite of NOT disconnected.

　　[HD6417727C]　It is fixed that incorrect SE0 detect disconnection does not occur.

2. Model name change

 "C" is added to the end (but, pre-position of "V") of the type code

First mask version B mask version	Updated Code (C mask version)	Notes
HD6417727F100(B) HD6417727F160(B)	HD6417727F100C HD6417727F160C	HQFP-3232-240 (Non Pb free solder)
HD6417727F100(B)V HD6417727F160(B)V	HD6417727F100CV HD6417727F160CV	HQFP-3232-240 (Pb free solder)
HD6417727BP100(B) HD6417727BP160(B)	HD6417727BP100C HD6417727BP160C	CSP-240 (Non Pb free ball)
HD6417727BP100(B)V HD6417727BP160(B)V	HD6417727BP100CV HD6417727BP160CV	CSP-240 (Pb free ball)

3. Mark Example
   3.1 HQPF-240 Package

First mask version

```
6417727F
SH3-DSP    100
           0324
BF80128
```

B mask version

```
6417727F
SH3-DSP    100
         B 0324
BF80128
```

C mask version

```
6417727F
SH3-DSP    100
         C 0324
BF80128
```

   3.2 CSP-240 Package

First mask version

```
6417727BP
100

BF80128
▲0324  JAPAN
```

B mask version

```
6417727BP
100
        B
BF80128
▲0324  JAPAN
```

C mask version

```
6417727BP
100
        C
BF80128
▲0324 JAPAN
```