To our customers,

__________________________
Old Company Name in Catalogs and Other Documents

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

April 1st, 2010
Renesas Electronics Corporation

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- This product has been developed by assuming its use for program development and evaluation in laboratories. Therefore, it does not fall under the application of Electrical Appliance and Material Safety Law and protection against electromagnetic interference when used in Japan.

CAUTION

If the requirements shown in the "CAUTION" sentences are ignored, the equipment may cause personal injury or damage to the products.

Renesas Tools Homepage  http://www.renesas.com/en/tools
1. Outline

The R0E521237CFK00 is a converter board for connecting the emulation probe R0E521000EPB00 and the compact emulator R0E521000CPE00 for R8C/Tiny Series to a foot pattern for 48-pin 0.5-mm-pitch LQFP (PLQP0048KB-A, formerly 48P6Q-A) of R8C/20, 21, 22, and 23 Groups.

2. Package Components (See Figure 1)

Table 1 Package Components

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>R0E521237CFK00 (Base board R0E521000CIF00 and 150mm FFC cable included)</td>
<td>1 pc.</td>
</tr>
<tr>
<td>YQPACK048SD (made by Tokyo Eletech Corporation)</td>
<td>1 pc.</td>
</tr>
<tr>
<td>NQPACK048SD (made by Tokyo Eletech Corporation)</td>
<td>1 pc.</td>
</tr>
<tr>
<td>YQ-GUIDE (made by Tokyo Eletech Corporation)</td>
<td>4 pcs.</td>
</tr>
<tr>
<td>R0E521237CFK00 User’s Manual (This manual)</td>
<td>1 pc.</td>
</tr>
</tbody>
</table>

3. Specifications

Table 2 Specifications

<table>
<thead>
<tr>
<th>Applicable package</th>
<th>PLQP0048KB-A, formerly 48P6Q-A (48-pin 0.5-mm-pitch LQFP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion/removal iterations of connector</td>
<td>Between R0E521237CFK00 and YQPACK048SD: 100 times guaranteed</td>
</tr>
<tr>
<td></td>
<td>Between R0E521000EPB00 or R0E521000CPE00 and R0E521237CFK00: 50 times guaranteed</td>
</tr>
</tbody>
</table>

4. Usage (See Figure 2)

The R0E521237CFK00 can be used for debugging and board mounted evaluation in common by mounting the NQPACK048SD on the user system.

(1) For debugging

Mount the NQPACK048SD and YQPACK048SD on the foot pattern of the user system in that order. And fix them with the YQ-GUIDE’s (do not use the screws included with the YQPACK048SD).

After connecting the R0E521000EPB00 or R0E521000CPE00 and R0E521237CFK00, connect the R0E521237CFK00 to the YQPACK048SD.

(2) For on-board evaluation

Mount an R8C/20, 21, 22 and 23 Groups MCU and HQPACK048SD (separately available) in that order on the NQPACK048SD on the user system. And fix them using a screw included with the HQPACK048SD.

Before using the R0E521237CFK00, be sure to read "7. Precautions" on page 4 and the R0E521000EPB00 or R0E521000CPE00 User’s Manual.
5. Connection Procedure (See Figure 3)

The procedure for connecting the R0E521237CFK00 is shown below.

1. Mount the NQPACK048SD on the user system.
2. Attach the YQPACK048SD on the NQPACK048SD.
3. Secure the four corners of the YQPACK048SD with the YQ-GUIDE’s.
   - Do not use the screws included with the YQPACK048SD for fixing the YQPACK048SD.
   - The screwdriver included with the NQPACK048SD is used for fixing the HQPACK048SD. Do not use it for fixing the YQ-GUIDE’s.
4. Attach the R0E521000EPB00 or R0E521000CPE00 to the R0E521237CFK00.
5. Attach the R0E521237CFK00 to the YQPACK048SD.

Figure 3 Connection procedure of the R0E521237CFK00

6. External Dimensions and a Sample Foot Pattern (See Figure 4)

Figure 4 External dimensions and a sample foot pattern of the R0E521237CFK00
7. Precautions

<table>
<thead>
<tr>
<th><strong>CAUTION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cautions to Be Taken for This Product:</strong></td>
</tr>
<tr>
<td>⚠ Do not pull or excessively flex the cable. The cable may cause a break.</td>
</tr>
<tr>
<td>⚠ When connecting the YQPACK048SD, be sure to use the included YQ-GUIDE’s.</td>
</tr>
<tr>
<td>⚠ Do not use the screws included with the YQPACK048SD to fix it.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>IMPORTANT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Notes on This Product:</strong></td>
</tr>
<tr>
<td>● We cannot accept any request for repair.</td>
</tr>
<tr>
<td>● For purchasing the NQPACK048SD, YQPACK048SD and HQPACK048SD, contact the following:</td>
</tr>
<tr>
<td>Daimaru Kogyo Ltd.</td>
</tr>
<tr>
<td>Tokyo Eletech Corporation</td>
</tr>
<tr>
<td>● For inquiries about the product or the contents of this manual, contact your local distributor.</td>
</tr>
<tr>
<td>Renesas Tools Homepage</td>
</tr>
</tbody>
</table>