

# RTE7701401CFK144T000R

R20UT3526EJ0100

Rev. 1.00

Oct. 01, 2015

## Exchange Adapter for Connecting RH850/D1x Series in 144-pin 0.5-mm-pitch LQFP

### 1. Outline

The RTE7701401CFK144T000R is an exchange adapter (EA) for connecting the RTE7701427EPA00000R emulator pod for the RH850/D1x (subsequently referred to as the pod) to pad patterns for a 144-pin 0.5-mm-pitch LQFP (PLQP0144KA-A).

### 2. Package Components

Check to see if the RTE7701401CFK144T000R package has all the following contents with reference to Contents of the Package included in the package after purchasing this product.

- (1) RTE7701401CFK144T000R exchange adapter 1 pc.
- (2) Table of Toxic and Hazardous Substance and Elements 1 sh.

### 3. Specifications

Table 1 Specifications

Applicable package	PLQP0144KA-A (144-pin 0.5-mm-pitch LQFP)
Insertion/removal iterations of connector	100 times guaranteed

### 4. Usage (See Figure 2)

The RTE7701401CFK144T000R can be used for debugging and on-board evaluation in common by mounting the TC on the target system.

#### (1) For debugging

Mount the TC on the pad pattern for the MCU on the target system board and attach the EC above it. In addition, connect the RTE7701401CFK144T000R to the pod, and then attach the RTE7701401CFK144T000R above the EC. The height of the socket is adjustable by inserting the SA between the EC and RTE7701401CFK144T000R if this is desired. Before using the EC, be sure to read the precautions on page 4.

#### (2) For on-board evaluation

Mount the TC, an MCU with on-chip flash memory or one-time PROM, and the MA, in that order, on the target system.

SA: Space adapter (sold separately, product of Renesas Electronics Corporation)  
 Model Name: QB-144GJ-YS-01T  
 EC: Emulator connector (sold separately, product of Renesas Electronics Corporation)  
 Model name: QB-144GJ-YQ-01T  
 \*The QB-144GJ-YQ-01T package includes the YQ guides.  
 TC: Target connector (sold separately, product of Renesas Electronics Corporation)  
 Model name: QB-144GJ-NQ-01T  
 MA: Mounting adapter (sold separately, product of Renesas Electronics Corporation)  
 Model name: QB-144GJ-HQ-01T

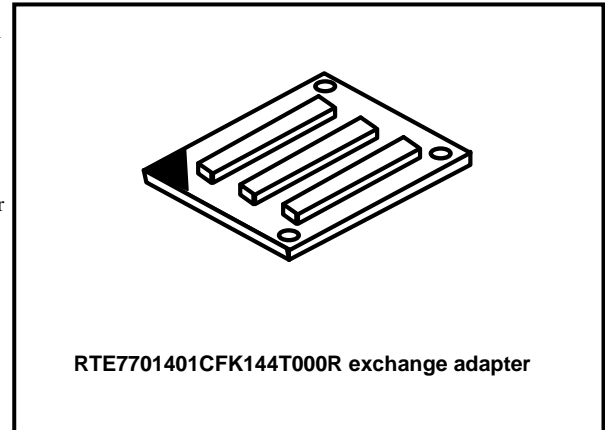


Figure 1 External View of the RTE7701401CFK144T000R

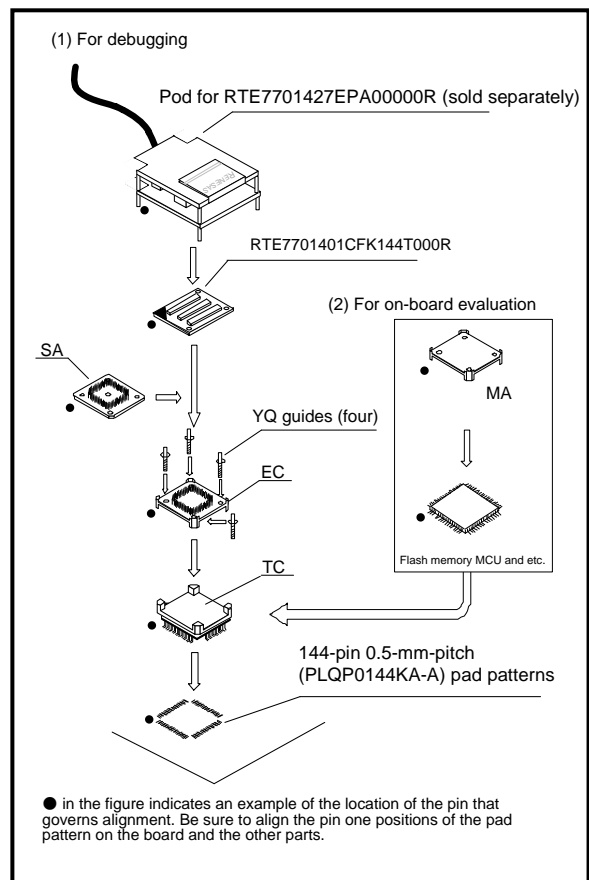


Figure 2 Usage of the RTE7701401CFK144T000R

5. Connection Procedure (See Figure 3)

The procedure for connecting the RTE7701401CFK144T000R is shown below.

- (1) Mount the TC on the target system.
  - (a) Thinly apply a two-part curing-type epoxy-based adhesive (with curing taking at least thirty minutes) to the tips of the four protrusions from the bottom surface of the TC to be bonded to the target system (before using the adhesive, use alcohol or another suitable solvent to clean the surface of the target system). If you have difficulty aligning the positions of the leads of the TC with the pads on the target system, adopt the method described in (b) below.
  - (b) Use guide pins (NQ guide) to align positions attached to the TC by inserting the pins into the sockets for this purpose on the top of the TC. These are two or three non-through holes with a diameter of 1.0 mm. Refer to the drawings of your TC for more information on the socket positions.
  - (c) Solder the TC to the target system. If an MA is to be included, attach the MA before soldering the TC. The MA is used to prevent scattered flux or solder creating problems by becoming attached to the contact pins of the TC.

■ Conditions for soldering  
 Reflow: within 10 seconds at 260°C  
 Manual soldering: within 5 seconds at 350°C (per pin)  
 Cautionary note: Do not wash the flux away by immersion or vapor treatment.

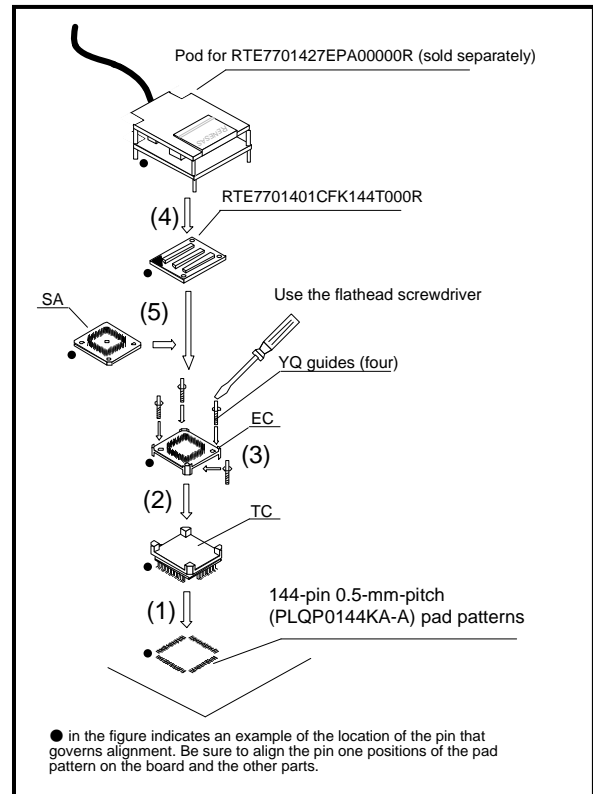


Figure 3 Procedure for Connecting the RTE7701401CFK144T000R

- (d) Remove the guide pins or MA if they were used.
- (2) Attach the EC to the TC.  
 Attach the EC above the TC after confirming there are neither cracks nor bends on the contact pins of the EC.
- (3) Secure the four corners of the EC with the YQ guide screws that came with the EC.

■ Screws supplied with the EC  
 Use the flathead screwdriver or torque driver supplied with the EC to secure, in order, the screws at the four corners. The tightening torque of a YQ guide should be no more than 0.054 Nm. Securing the screws too tightly will lead to faulty connections.

- (4) Attach the pod to the RTE7701401CFK144T000R.
- (5) Attach the RTE7701401CFK144T000R to the EC.

- Adjusting the height of the socket  
 The height of the socket is adjustable by inserting an SA between the EC and the RTE7701401CFK144T000R.

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 EC: Emulator connector (sold separately, product of Renesas Electronics Corporation)  
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 Model name: QB-144GJ-NQ-01T  
 MA: Mounting adapter (sold separately, product of Renesas Electronics Corporation)  
 Model name: QB-144GJ -HQ-01T

6. Drawing of the Socket Assembly, Drawing with Dimensions, and Pad Pattern for Reference

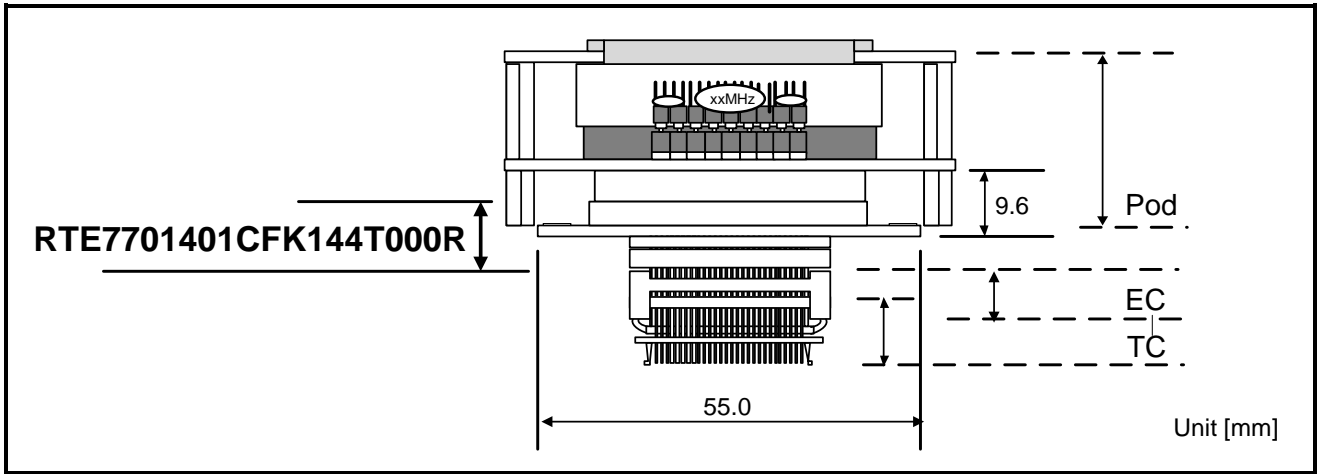


Figure 4 Drawing of the Socket Assembly

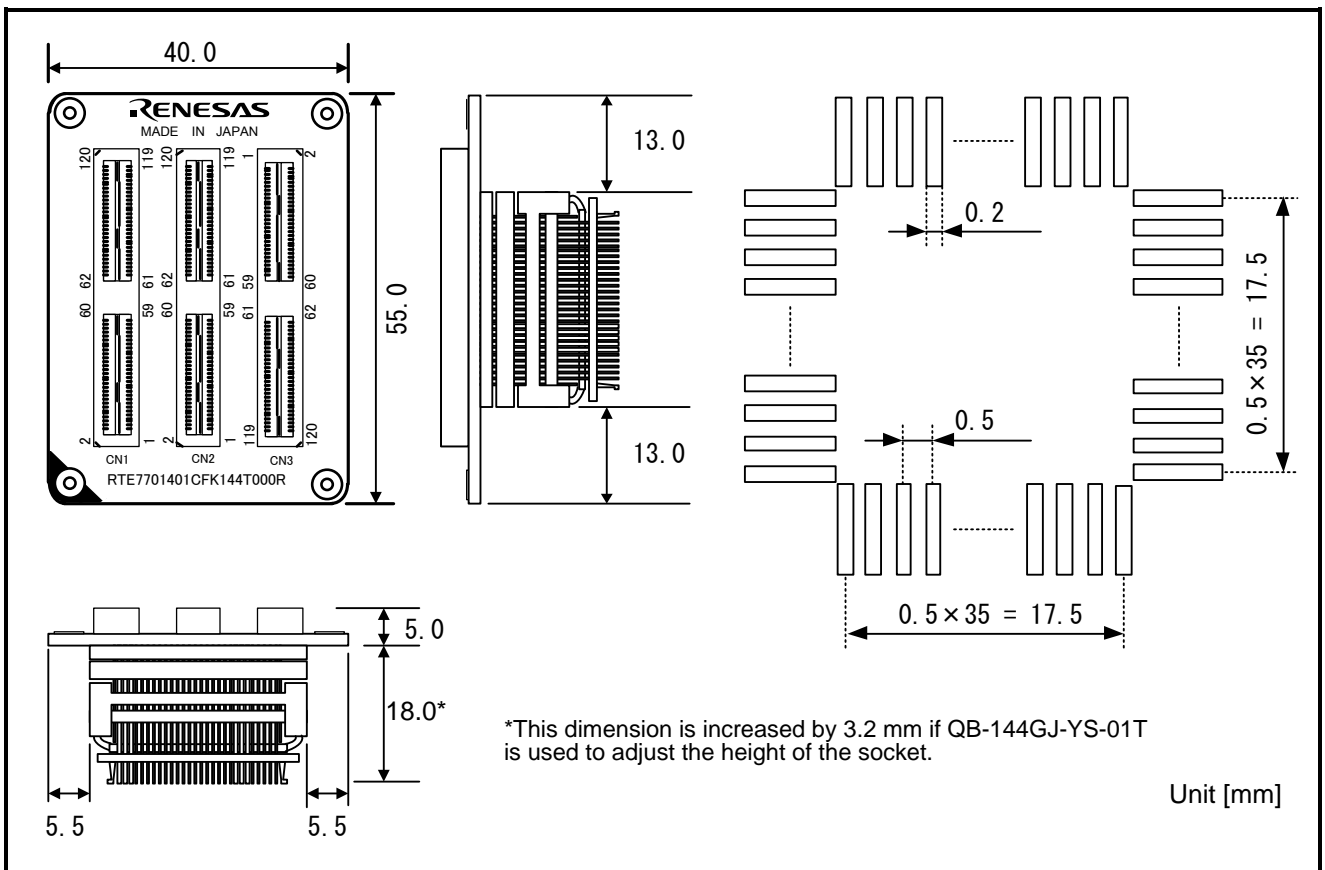


Figure 5 Drawing with Dimensions and a Pad Pattern for Reference

## 7. Precautions and WEEE Directive

**CAUTION**

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

**⚠ CAUTION**

Cautions to be Taken for This Product:



- Use the YQ guides supplied with the EC to attach the QB-144GJ-YQ-01T.

**IMPORTANT**

Note on This Product:

- This product is not reparable.

Disposal Instruction (This is only valid in the European Union.):



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