

# M3T-F160-64NSA

Converter Board for Connecting FLX160 to 64-pin 0.8-mm-pitch LQFP

## User's Manual

\* NQPACK, YQPACK, YQSOCKET, YQ-GUIDE, HQPACK, TQPACK, TQSOCKET, CSSOCKET, CSPLUG/W and LSPACK are trademarks of Tokyo Eletech Corporation.

### Notes regarding these materials

1. This document is provided for reference purposes only so that Renesas customers may select the appropriate Renesas products for their use. Renesas neither makes warranties or representations with respect to the accuracy or completeness of the information contained in this document nor grants any license to any intellectual property rights or any other rights of Renesas or any third party with respect to the information in this document.
2. Renesas shall have no liability for damages or infringement of any intellectual property or other rights arising out of the use of any information in this document, including, but not limited to, product data, diagrams, charts, programs, algorithms, and application circuit examples.
3. You should not use the products or the technology described in this document for the purpose of military applications such as the development of weapons of mass destruction or for the purpose of any other military use. When exporting the products or technology described herein, you should follow the applicable export control laws and regulations, and procedures required by such laws and regulations.
4. All information included in this document such as product data, diagrams, charts, programs, algorithms, and application circuit examples, is current as of the date this document is issued. Such information, however, is subject to change without any prior notice. Before purchasing or using any Renesas products listed in this document, please confirm the latest product information with a Renesas sales office. Also, please pay regular and careful attention to additional and different information to be disclosed by Renesas such as that disclosed through our website. (<http://www.renesas.com>)
5. Renesas has used reasonable care in compiling the information included in this document, but Renesas assumes no liability whatsoever for any damages incurred as a result of errors or omissions in the information included in this document.
6. When using or otherwise relying on the information in this document, you should evaluate the information in light of the total system before deciding about the applicability of such information to the intended application. Renesas makes no representations, warranties or guaranties regarding the suitability of its products for any particular application and specifically disclaims any liability arising out of the application and use of the information in this document or Renesas products.
7. With the exception of products specified by Renesas as suitable for automobile applications, Renesas products are not designed, manufactured or tested for applications or otherwise in systems the failure or malfunction of which may cause a direct threat to human life or create a risk of human injury or which require especially high quality and reliability such as safety systems, or equipment or systems for transportation and traffic, healthcare, combustion control, aerospace and aeronautics, nuclear power, or undersea communication transmission. If you are considering the use of our products for such purposes, please contact a Renesas sales office beforehand. Renesas shall have no liability for damages arising out of the uses set forth above.
8. Notwithstanding the preceding paragraph, you should not use Renesas products for the purposes listed below:
  - (1) artificial life support devices or systems
  - (2) surgical implantations
  - (3) healthcare intervention (e.g., excision, administration of medication, etc.)
  - (4) any other purposes that pose a direct threat to human life

Renesas shall have no liability for damages arising out of the uses set forth in the above and purchasers who elect to use Renesas products in any of the foregoing applications shall indemnify and hold harmless Renesas Technology Corp., its affiliated companies and their officers, directors, and employees against any and all damages arising out of such applications.
9. You should use the products described herein within the range specified by Renesas, especially with respect to the maximum rating, operating supply voltage range, movement power voltage range, heat radiation characteristics, installation and other product characteristics. Renesas shall have no liability for malfunctions or damages arising out of the use of Renesas products beyond such specified ranges.
10. Although Renesas endeavors to improve the quality and reliability of its products, IC products have specific characteristics such as the occurrence of failure at a certain rate and malfunctions under certain use conditions. Please be sure to implement safety measures to guard against the possibility of physical injury, and injury or damage caused by fire in the event of the failure of a Renesas product, such as safety design for hardware and software including but not limited to redundancy, fire control and malfunction prevention, appropriate treatment for aging degradation or any other applicable measures. Among others, since the evaluation of microcomputer software alone is very difficult, please evaluate the safety of the final products or system manufactured by you.
11. In case Renesas products listed in this document are detached from the products to which the Renesas products are attached or affixed, the risk of accident such as swallowing by infants and small children is very high. You should implement safety measures so that Renesas products may not be easily detached from your products. Renesas shall have no liability for damages arising out of such detachment.
12. This document may not be reproduced or duplicated, in any form, in whole or in part, without prior written approval from Renesas.
13. Please contact a Renesas sales office if you have any questions regarding the information contained in this document, Renesas semiconductor products, or if you have any other inquiries.



### CAUTION

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

# 1. Outline

The M3T-F160-64NSA is a converter board for connecting the 160-core flexible cable FLX160 to a foot pattern for 64-pin 0.8-mm-pitch LQFP (PLQP0064GA-A).

# 2. Package Components (See Figure 1)

- (1) M3T-F160-64NSA converter board ..... 1 pc.
- (2) NQPACK064SA160 (made by Tokyo Eletech Corporation) ..... 1 pc.
- (3) YQPACK064SA (made by Tokyo Eletech Corporation) ..... 1 pc.
- (4) YQSOCKET064SAF (made by Tokyo Eletech Corporation) ..... 1 pc.  
Pre-mounted on the converter board M3T-F160-64NSA
- (5) YQ-GUIDE'S (made by Tokyo Eletech Corporation) ..... 4 pcs.
- (6) M3T-F160-64NSA User's Manual (This manual)

# 3. Specifications

Table 1 Specifications

Applicable package	PLQP0064GA-A formerly 64P6U-A (64-pin 0.8-mm-pitch LQFP)
Insertion/removal iterations of connector	50 times guaranteed

# 4. Usage (See Figure 2)

The M3T-F160-64NSA can be used for debugging and board-mounted evaluation in common by mounting the NQPACK064SA160 on the user system.

- (1) For debugging  
Mount the NQPACK064SA160 on the foot pattern of the user system and attach the YQPACK064SA on it. And connect the probe of the emulation pod to the upper connector of the M3T-F160-64NSA. Then connect the YQPACK064SA and the M3T-F160-64NSA.
- (2) For onboard evaluation  
Mount an MCU with on-chip flash memory or QzROM and the HQPACK064SA160 (separately available) in that order on the NQPACK064SA160 on the user system.

Before using the M3T-F160-64NSA, be sure to read "6. Precautions" on page 3.

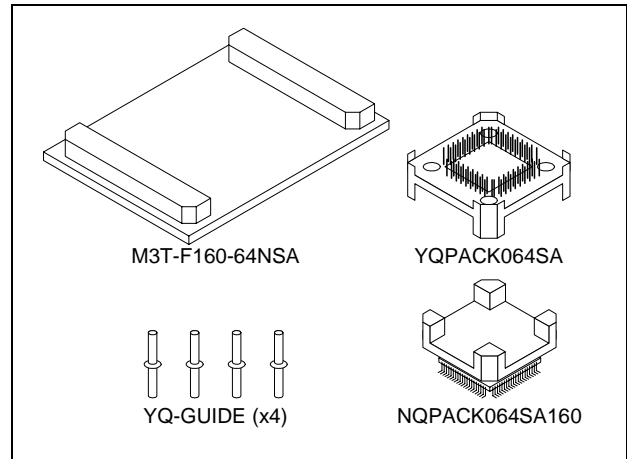


Figure 1 Package components of the M3T-F160-64NSA

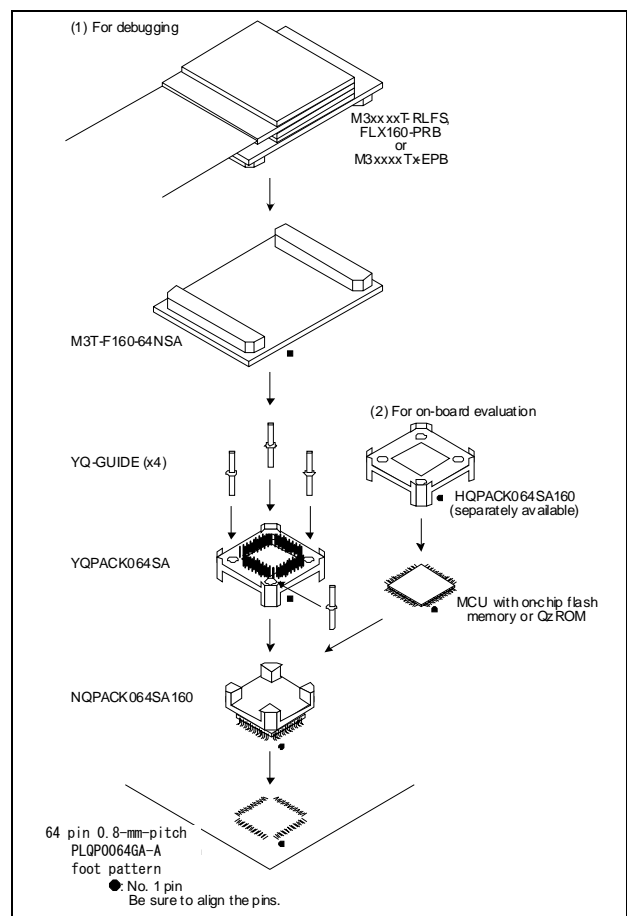


Figure 2 Usage of the M3T-F160-64NSA

## 5. External Dimensions and a Sample Foot Pattern

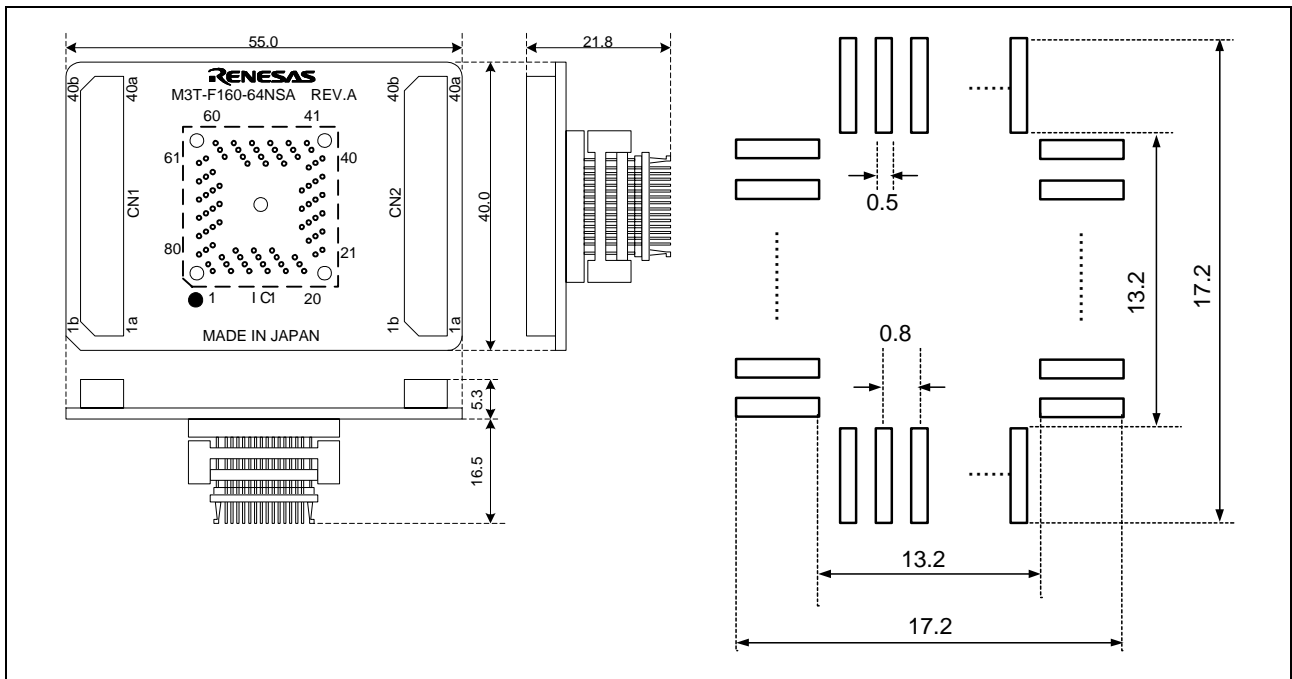


Figure 3 External dimensions and a sample foot pattern of the M3T-F160-64NSA

## 6. Precautions

### ⚠ CAUTION

#### Caution to Be Taken for This Product:



- When connecting the YQPACK064SA, be sure to use the included YQ-GUIDE's.
- Do NOT use the screws included with the YQPACK064SA for connecting the YQPACK064SA.

### IMPORTANT

#### Notes on This Product:

- We cannot accept any request for repair.
- For purchasing the NQPACK064SA160, YQPACK064SA, HQPACK064SA160, contact the following:  
Tokyo Eletech Corporation [http://www.tetc.co.jp/e\\_tet.htm](http://www.tetc.co.jp/e_tet.htm)
- For inquiries about the product or the contents of this manual, contact your local distributor.  
Renesas Tools Homepage <http://www.renesas.com/en/tools>

## 7. Correspondence of Connectors CN1 and CN2

Table 2 Correspondence of the connectors

No.	IC1	No.	IC1	No.	IC1	No.	IC1
CN1-1a	NC	CN1-1b	5	CN2-1a	-	CN2-1b	6
CN1-2a	4	CN1-2b	3	CN2-2a	7	CN2-2b	8
CN1-3a	-	CN1-3b	NC	CN2-3a	9	CN2-3b	10
CN1-4a	NC	CN1-4b	NC	CN2-4a	11	CN2-4b	12
CN1-5a	NC	CN1-5b	NC	CN2-5a	13	CN2-5b	14
CN1-6a	NC	CN1-6b	NC	CN2-6a	15	CN2-6b	16
CN1-7a	2	CN1-7b	NC	CN2-7a	17	CN2-7b	18
CN1-8a	1	CN1-8b	64	CN2-8a	-	CN2-8b	-
CN1-9a	63	CN1-9b	-	CN2-9a	-	CN2-9b	-
CN1-10a	-	CN1-10b	NC	CN2-10a	19	CN2-10b	-
CN1-11a	NC	CN1-11b	-	CN2-11a	-	CN2-11b	20
CN1-12a	62	CN1-12b	61	CN2-12a	21	CN2-12b	-
CN1-13a	60	CN1-13b	59	CN2-13a	22	CN2-13b	-
CN1-14a	58	CN1-14b	57	CN2-14a	23	CN2-14b	24
CN1-15a	56	CN1-15b	55	CN2-15a	25	CN2-15b	26
CN1-16a	54	CN1-16b	53	CN2-16a	27	CN2-16b	28
CN1-17a	52	CN1-17b	NC	CN2-17a	-	CN2-17b	-
CN1-18a	NC	CN1-18b	NC	CN2-18a	-	CN2-18b	-
CN1-19a	NC	CN1-19b	NC	CN2-19a	-	CN2-19b	-
CN1-20a	NC	CN1-20b	NC	CN2-20a	-	CN2-20b	-
CN1-21a	NC	CN1-21b	NC	CN2-21a	-	CN2-21b	-
CN1-22a	NC	CN1-22b	NC	CN2-22a	-	CN2-22b	-
CN1-23a	NC	CN1-23b	51	CN2-23a	-	CN2-23b	-
CN1-24a	50	CN1-24b	49	CN2-24a	-	CN2-24b	-
CN1-25a	48	CN1-25b	NC	CN2-25a	29	CN2-25b	30
CN1-26a	NC	CN1-26b	NC	CN2-26a	31	CN2-26b	32
CN1-27a	NC	CN1-27b	NC	CN2-27a	-	CN2-27b	-
CN1-28a	-	CN1-28b	-	CN2-28a	-	CN2-28b	-
CN1-29a	-	CN1-29b	-	CN2-29a	-	CN2-29b	-
CN1-30a	NC	CN1-30b	NC	CN2-30a	-	CN2-30b	-
CN1-31a	NC	CN1-31b	NC	CN2-31a	-	CN2-31b	33
CN1-32a	NC	CN1-32b	NC	CN2-32a	-	CN2-32b	34
CN1-33a	NC	CN1-33b	NC	CN2-33a	-	CN2-33b	35
CN1-34a	NC	CN1-34b	NC	CN2-34a	36	CN2-34b	37
CN1-35a	-	CN1-35b	-	CN2-35a	38	CN2-35b	39
CN1-36a	-	CN1-36b	-	CN2-36a	40	CN2-36b	41
CN1-37a	-	CN1-37b	47	CN2-37a	42	CN2-37b	43
CN1-38a	46	CN1-38b	45	CN2-38a	-	CN2-38b	-
CN1-39a	-	CN1-39b	44	CN2-39a	-	CN2-39b	-
CN1-40a	-	CN1-40b	NC	CN2-40a	-	CN2-40b	-

("-": No connection)