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Renesas Electronics Corporation

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M3T-FLX-144NSD

Converter Board for Connecting FLX160 to 144-pin 0.5-mm-pitch LQFP

User's Manual

Notes regarding these materials

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Renesas Tools Homepage <http://www.renesas.com/en/tools>

1. Outline

The M3T-FLX-144NSD is a converter board for connecting the 160-core flexible cable FLX160 to a foot pattern for 144-pin 0.5-mm-pitch LQFP (144P6Q-A).

2. Package Components (See Figure 1)

- (1) M3T-FLX-144NSD converter board..... x1
- (2) YQPACK144SD (made by Tokyo Eletech Corporation) x1
- (3) NQPACK144SD-ND (made by Tokyo Eletech Corporation) x1
- (4) YQ-GUIDE's x4
- (5) M3T-FLX-144NSD User's Manual (This manual)

3. Specifications

Table 1 Specifications

| | |
|---|--------------------------------------|
| Applicable package | 144P6Q-A (144-pin 0.5-mm-pitch LQFP) |
| Insertion/removal iterations of connector | 50 times guaranteed |

4. Usage (See Figure 2)

The M3T-FLX-144NSD can be used for debugging and board-mounted evaluation in common by mounting the NQPACK144SD-ND on the user system.

- (1) For debugging
Mount the NQPACK144SD-ND on the foot pattern of the user system and attach the YQPACK144SD on it. And connect the probe of the emulation pod to the upper connector of the M3T-FLX-144NSD. Then connect the YQPACK144SD and the M3T-FLX-144NSD.
- (2) For onboard evaluation
Mount an MCU with on-chip flash memory or one-time PROM and the HQPACK144SD (separately available) in that order on the NQPACK144SD-ND on the user system.

Before using the M3T-FLX-144NSD, be sure to read "7. Precautions" on page 4.

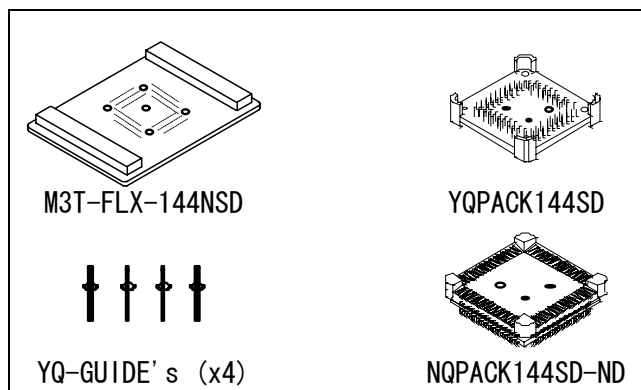


Figure 1 Package components of the M3T-FLX-144NSD

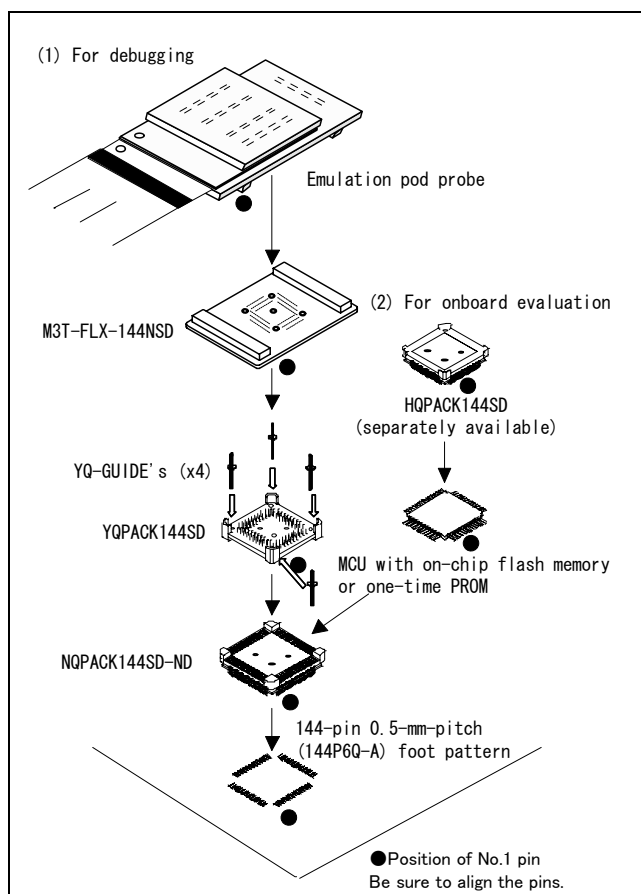


Figure 2 Usage of the M3T-FLX-144NSD

5. Connection Procedure (See Figure 3)

The procedure for connecting the M3T-FLX-144NSD is shown below.

- (1) Mount the NQPACK144SD-ND on the user system.
- (2) Attach the YQPACK144SD on the NQPACK144SD-ND.
- (3) Secure the four corners of the YQPACK144SD with the YQ-GUIDE's.

- Do not use the screws included with the YQPACK144SD.
- Do NOT use the screwdriver included with the NQPACK144SD-ND that is used only for the HQPACK144SD. It is not for the YQ-GUIDE's.

- (4) Attach the probe of the emulation pod to the M3T-FLX-144NSD.
- (5) Connect M3T-FLX-144NSD to the emulator probe.

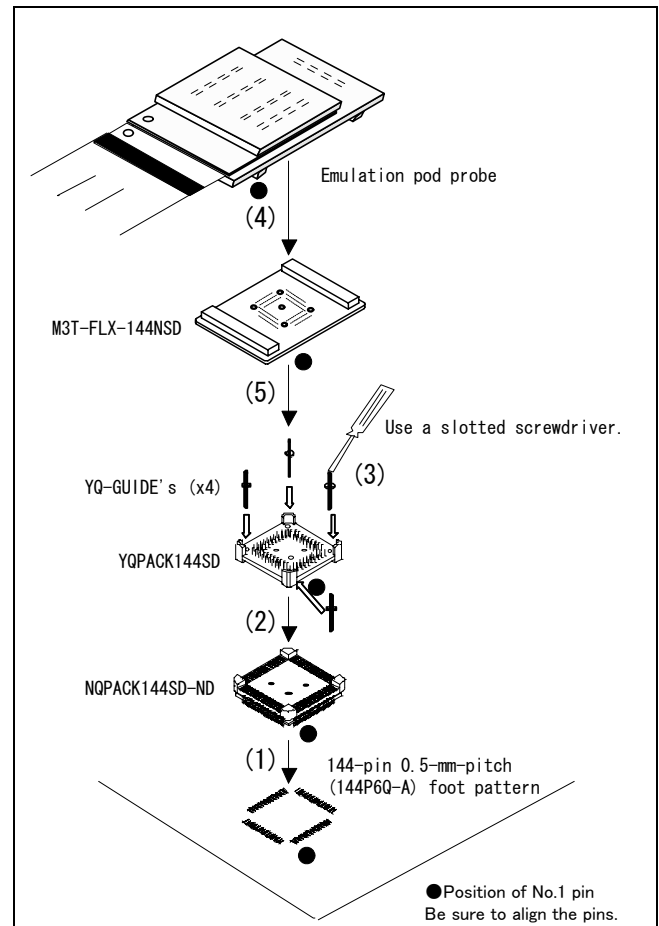


Figure 3 Connection procedure of the M3T-FLX-144NSD

6. External Dimensions and a Sample Foot Pattern

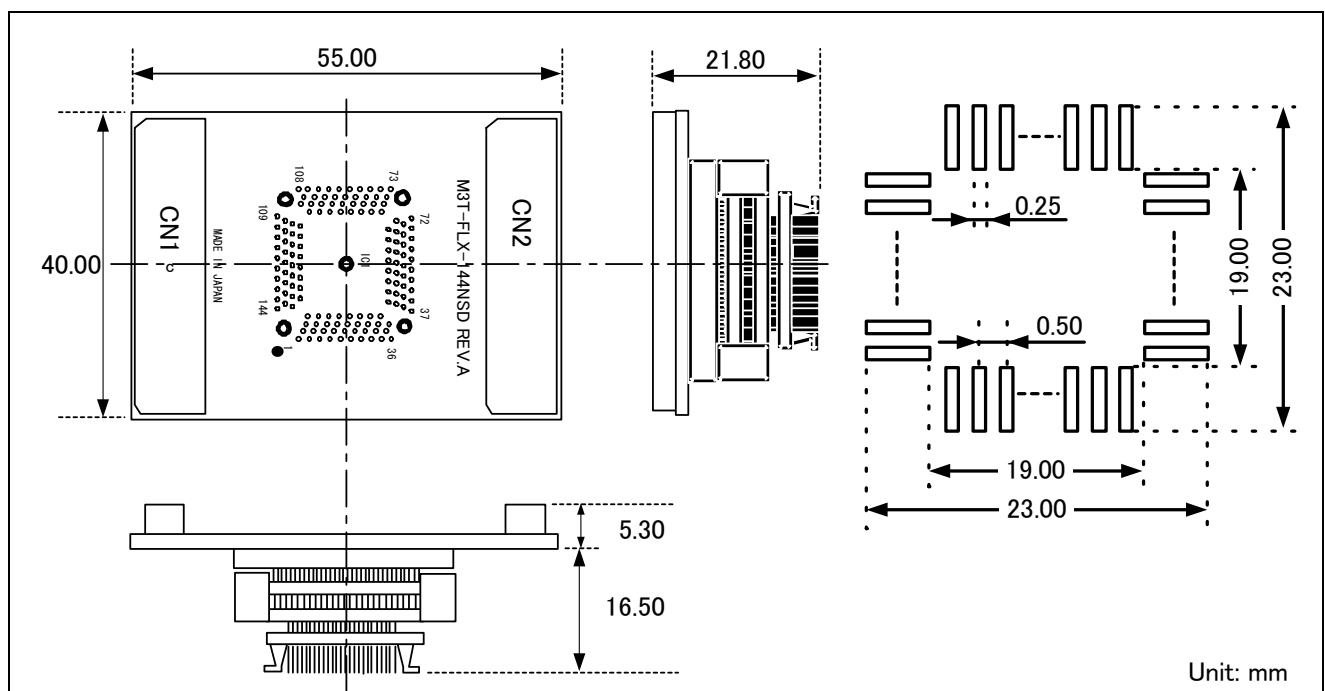


Figure 4 External dimensions and a sample foot pattern of the M3T-FLX-144NSD

7. Precautions

⚠ CAUTION

Caution to Be Taken for This Product:



- When connecting the YQPACK144SD, be sure to use the included YQ-GUIDE's.
- Do NOT use the screws included with the YQPACK144SD for connecting the YQPACK144SD.

IMPORTANT

Notes on This Product:

- We cannot accept any request for repair.
- For purchasing the NQPACK144SD-ND, YQPACK144SD, HQPACK144SD, contact the following:
Tokyo Eletech Corporation 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>

* NQPACK, YQPACK, YQSOCKET, YQ-GUIDE, HQPACK, TQPACK and TQSOCKET are trademarks of Tokyo Eletech Corporation

8. Correspondence of Connectors CN1 and CN2

Table 2 Correspondence of the connectors

| CN1 | IC1 | CN1 | IC1 | CN2 | IC1 | CN2 | IC1 |
|---------|-----|---------|-----|---------|-----|---------|-----|
| CN1-01a | — | CN1-01b | 18 | CN2-01a | — | CN2-01b | 19 |
| CN1-02a | 17 | CN1-02b | 16 | CN2-02a | 20 | CN2-02b | 21 |
| CN1-03a | 15 | CN1-03b | 14 | CN2-03a | 22 | CN2-03b | 23 |
| CN1-04a | 13 | CN1-04b | 12 | CN2-04a | 24 | CN2-04b | 25 |
| CN1-05a | 11 | CN1-05b | 10 | CN2-05a | 26 | CN2-05b | 27 |
| CN1-06a | 9 | CN1-06b | 8 | CN2-06a | 28 | CN2-06b | 29 |
| CN1-07a | 7 | CN1-07b | 6 | CN2-07a | 30 | CN2-07b | 31 |
| CN1-08a | 5 | CN1-08b | 4 | CN2-08a | 32 | CN2-08b | 33 |
| CN1-09a | 3 | CN1-09b | 2 | CN2-09a | 34 | CN2-09b | 35 |
| CN1-10a | 1 | CN1-10b | — | CN2-10a | 36 | CN2-10b | — |
| CN1-11a | — | CN1-11b | 144 | CN2-11a | — | CN2-11b | 37 |
| CN1-12a | 143 | CN1-12b | 142 | CN2-12a | 38 | CN2-12b | 39 |
| CN1-13a | 141 | CN1-13b | 140 | CN2-13a | 40 | CN2-13b | 41 |
| CN1-14a | 139 | CN1-14b | 138 | CN2-14a | 42 | CN2-14b | 43 |
| CN1-15a | 137 | CN1-15b | 136 | CN2-15a | 44 | CN2-15b | 45 |
| CN1-16a | 135 | CN1-16b | 134 | CN2-16a | 46 | CN2-16b | 47 |
| CN1-17a | 133 | CN1-17b | 132 | CN2-17a | 48 | CN2-17b | 49 |
| CN1-18a | 131 | CN1-18b | 130 | CN2-18a | 50 | CN2-18b | 51 |
| CN1-19a | 129 | CN1-19b | 128 | CN2-19a | 52 | CN2-19b | 53 |
| CN1-20a | 127 | CN1-20b | — | CN2-20a | 54 | CN2-20b | — |
| CN1-21a | — | CN1-21b | 126 | CN2-21a | — | CN2-21b | 55 |
| CN1-22a | 125 | CN1-22b | 124 | CN2-22a | 56 | CN2-22b | 57 |
| CN1-23a | 123 | CN1-23b | 122 | CN2-23a | 58 | CN2-23b | 59 |
| CN1-24a | 121 | CN1-24b | 120 | CN2-24a | 60 | CN2-24b | 61 |
| CN1-25a | 119 | CN1-25b | 118 | CN2-25a | 62 | CN2-25b | 63 |
| CN1-26a | 117 | CN1-26b | 116 | CN2-26a | 64 | CN2-26b | 65 |
| CN1-27a | 115 | CN1-27b | 114 | CN2-27a | 66 | CN2-27b | 67 |
| CN1-28a | 113 | CN1-28b | 112 | CN2-28a | 68 | CN2-28b | 69 |
| CN1-29a | 111 | CN1-29b | 110 | CN2-29a | 70 | CN2-29b | 71 |
| CN1-30a | 109 | CN1-30b | — | CN2-30a | 72 | CN2-30b | — |
| CN1-31a | — | CN1-31b | 108 | CN2-31a | — | CN2-31b | 73 |
| CN1-32a | 107 | CN1-32b | 106 | CN2-32a | 74 | CN2-32b | 75 |
| CN1-33a | 105 | CN1-33b | 104 | CN2-33a | 76 | CN2-33b | 77 |
| CN1-34a | 103 | CN1-34b | 102 | CN2-34a | 78 | CN2-34b | 79 |
| CN1-35a | 101 | CN1-35b | 100 | CN2-35a | 80 | CN2-35b | 81 |
| CN1-36a | 99 | CN1-36b | 98 | CN2-36a | 82 | CN2-36b | 83 |
| CN1-37a | 97 | CN1-37b | 96 | CN2-37a | 84 | CN2-37b | 85 |
| CN1-38a | 95 | CN1-38b | 94 | CN2-38a | 86 | CN2-38b | 87 |
| CN1-39a | 93 | CN1-39b | 92 | CN2-39a | 88 | CN2-39b | 89 |
| CN1-40a | 91 | CN1-40b | — | CN2-40a | 90 | CN2-40b | — |

(NC: No connection)

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