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

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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M30280T-85LGF

Converter Board for 85-pin 0.65mm pitch TFLGA

User's Manual

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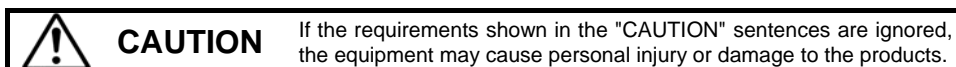
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1. Outline

The M30280T-85LGF is a converter board for connecting M16C/Tiny Series including the emulation probe M3028BT-EPB, M30290T-EPB, and the compact emulator M3028BT2-CPE, M30290T2-CPE to a foot pattern for 85-pin 0.65mm pitch TFLGA (PTLG0085JB-A) of M16C/28 group.

2. Package Components (See Figure 1)

- | | |
|---|-------|
| (1) M30280T-85LGF converter board | 1 pc. |
| (2) CSSOCKET085B1007RE01
(made by Tokyo Eletech Corporation) | 1 pc. |
| (3) M30280T-85LGF User's Manual (This manual) | 1 pc. |

3. Specifications

Table 1 Specifications

Applicable package	PTLG0085JB-A, previous code: 85F0G (85-pin 0.65mm pitch TFLGA)
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4. Usage (See Figure 2)

The M30280T-85LGF by mounting the CSSOCKET085B1007RE01 on a foot pattern of the user system can be used in both cases of connecting to an emulator, and a board mounted evaluation.

- When connecting emulator
Connect the M30290T-PTCB to the emulator. Connect the M30280T-85LGF to the CSSOCKET085B1007RE01 on the user system.
- For onboard evaluation
Connect a MCU with on-chip flash memory to the LSPACK085B1007RE01 (separately available). Then, connect the LSPACK085B1007RE01 to the CSSOCKET085B1007RE01 on the user system.

Before using the M30280T-85LGF, be sure to read "8. Precautions" on page 4.

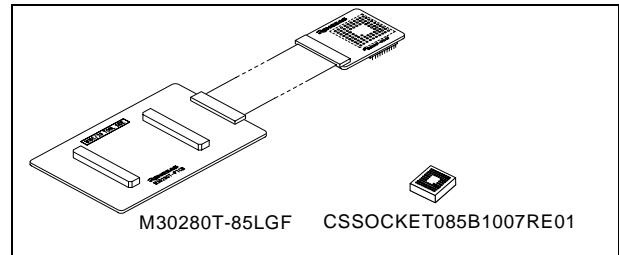


Figure 1 Package components of the M30280T-85LGF

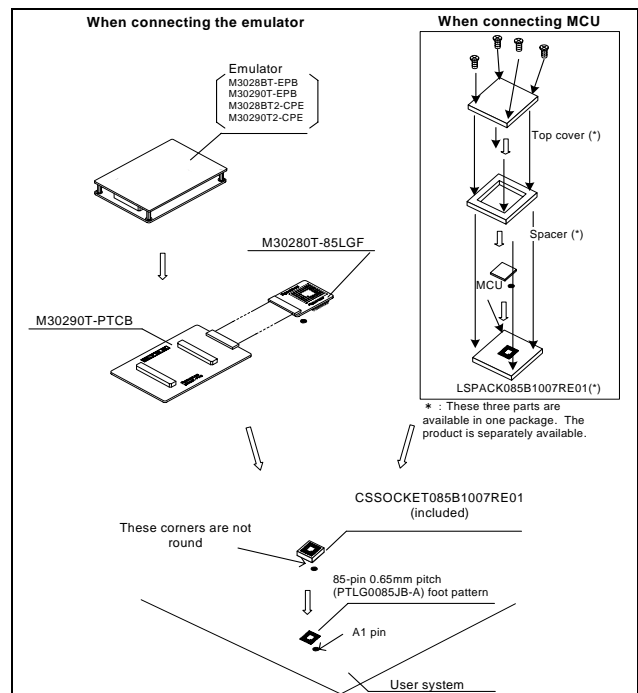


Figure 2 Usage of the M30280T-85LGF

5. Connection Procedure (See Figure 3)

The procedure for connecting the M30280T-85LGF is outlined below.

- (1) Connect the CSSOCKET085B1007RE01 to a foot pattern on the user system.
- (2) Connect the M30290T-PTCB to the emulator.
- (3) Connect the M30280T-85LGF to the CSSOCKET085B1007RE01.

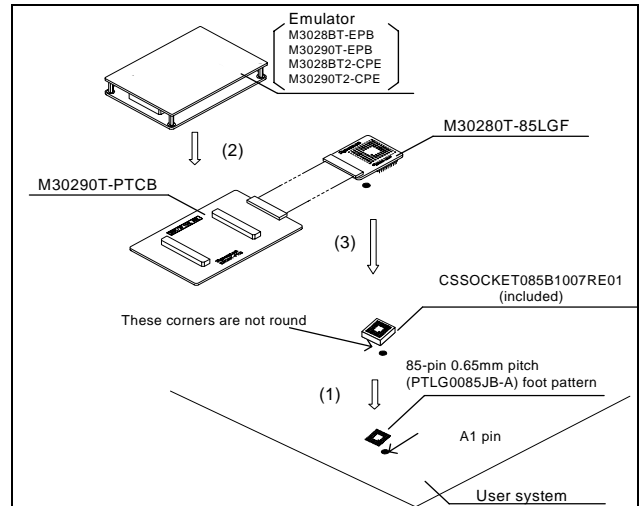


Figure 3 Connection procedure of the M30280T-85LGF

6. Height Adjustment (See Figure 4)

If there is a tall peripheral around the place where the CSSOCKET085B1007RE01 is mounted, the height can be adjusted about 6mm by using separately available CSSOCKET085B1007RE01 and CSSOCKET085B1007RE02. The procedure is outlined below.

- (1) Attach the CSSOCKET085B1007RE01 on the user system to CSSOCKET085B1007RE02 (separately available).
- (2) Attach the CSSOCKET085B1007RE02 connected as above (1) to the CSSOCKET085B1007RE01 (separately available).
- (3) Attach the CSSOCKET085B1007RE01 connected as above (2) to M30280T-85LGF.

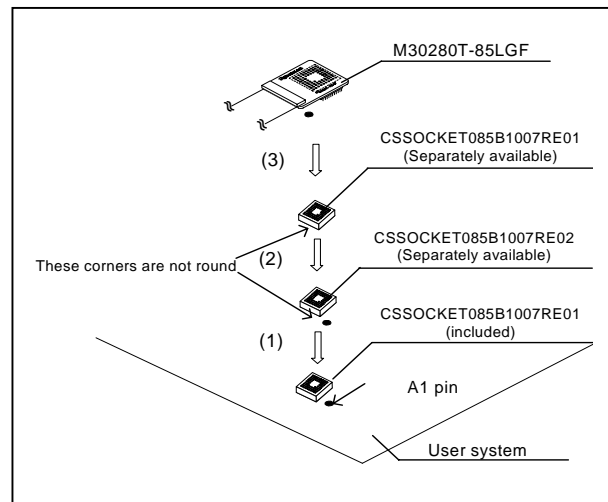


Figure 4 Height adjustment of the M30280T-85LGF and user system

7. Dimensions of M30280-85LGF and Recommended Foot Pattern (See Figure 4)

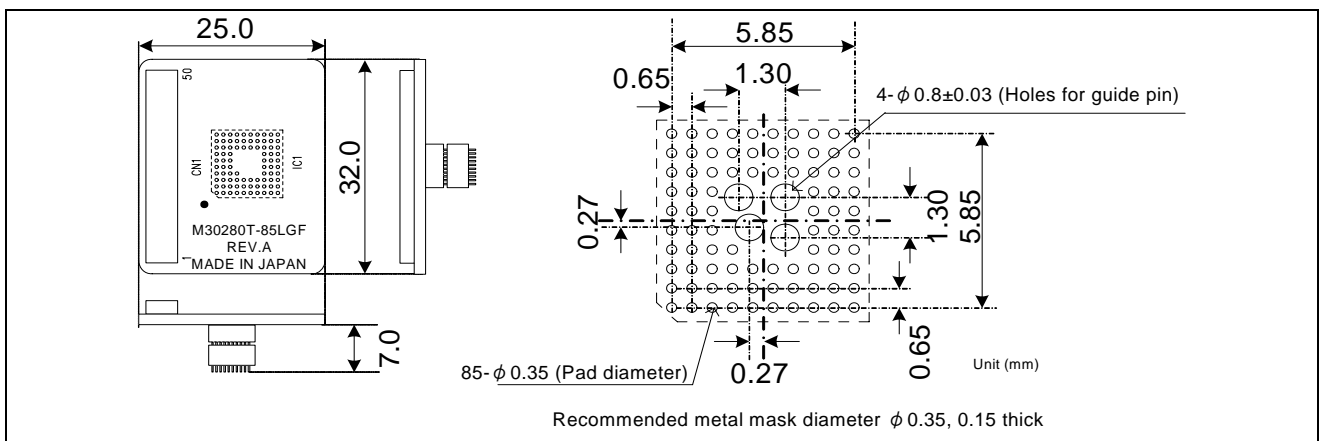


Figure 5 Dimensions of M30280-85LGF and recommended foot pattern

8. Precautions

CAUTION

Note on connecting to the user system



- Caution is demanded, because attaching a converter board in the wrong direction may cause a fatal damage on the emulator or the user system.

IMPORTANT

Notes on Handling This Product:

- On the use of this product, prepare recommended foot pattern on the user system, and mount it with recommended metal mask with diameter (ϕ 0.35mm) and 0.15mm thick.
- Create a hole for guide pin on the user system where CSSOKET085B1007RE01 is mounted.
- The following show the recommended reflow conditions (surface temperature) for mounting CSSOKET085B1007RE01, but the conditions are changed depending on size of the user system, or peripheral.

	Lead free solder	Eutectic solder
Pre-heat:	150 to 180°C, approx. 180sec.	150 to 180°C, approx. 180sec.
Heat:	240°C or higher, approx. 30 to 60sec.	210°C or higher, approx. 30 to 60sec.
Peak:	260°C	230°C

Notes on Connectors of the Converter Board:

- The connectors of the emulator and M30290T-PTCB are guaranteed for up to 50 insertion/removal iterations.
- The connectors of the M30280T-85LGF and CSSOCKET085B1007RE01 are guaranteed for up to 100 insertion/removal iterations.

Notes on This Product:

- We cannot accept any request for repair.
- For purchasing the CSSOCKET085B1007RE01, the CSSOCKET085B1007RE02 and the LSPACK085B1007RE01, contact the following:
Tokyo Eletech Corporation http://www.tetc.co.jp/e_index.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>