

To our customers,

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April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

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User's Manual

# QB-78F8032-EA-02T

Exchange adapter  
(On board LIN Transceiver & Voltage Regulator)

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Target Device:

μPD78F8032D

μPD78F8030(A2)

μPD78F8029(A2)

μPD78F8028(A2)

μPD78F8027(A2)

μPD78F8026(A2)

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## 第1章 概説

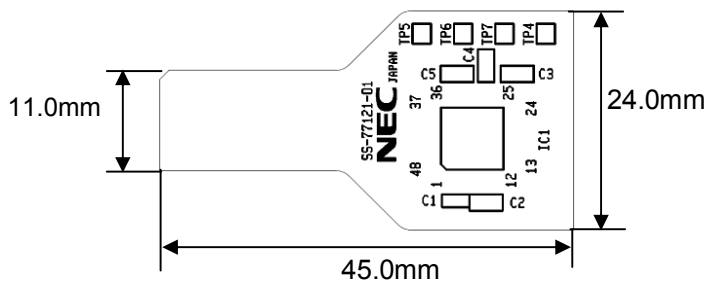
QB-78F8032-EA-02T は、電源と LIN Transceiver 機能を搭載したエキ스チェンジ・アダプタです。  
μPD78F8026(A2)/78F8027(A2)/78F8028(A2)/78F8029(A2)/78F8030(A2)/78F8032D を用いたシステム開発において、本製品と QB-78K0KX2 を組み合わせるとハードウェアおよびソフトウェアを効率的にデバッグできます。

## CHAPTER 1 GENERAL

The QB-78F8032-EA-02T is an exchange adapter on board voltage regulator and LIN transceiver function.

Hardware and software can be debugged efficiently in the development of systems in which the μPD78F8026(A2)/78F8027(A2)/78F8028(A2)/78F8029(A2)/78F8030(A2)/78F8032D are used by combining with this product and QB-78K0KX2.

Top View (QB-78F8032-EA-02T parts side)



Bottom View (QB-78F8032-EA-02T connection side)

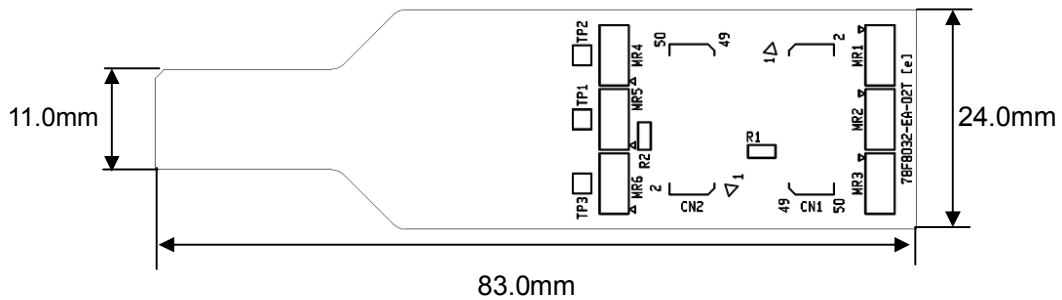
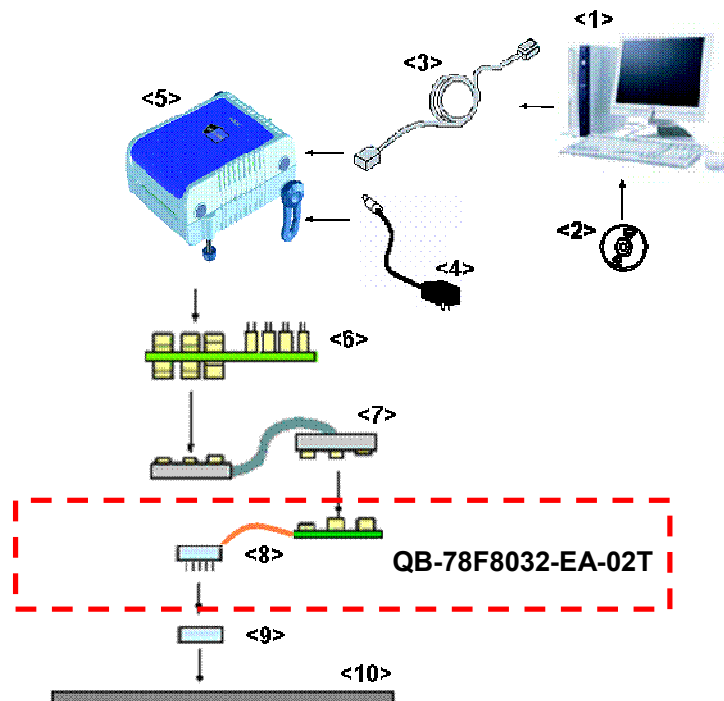
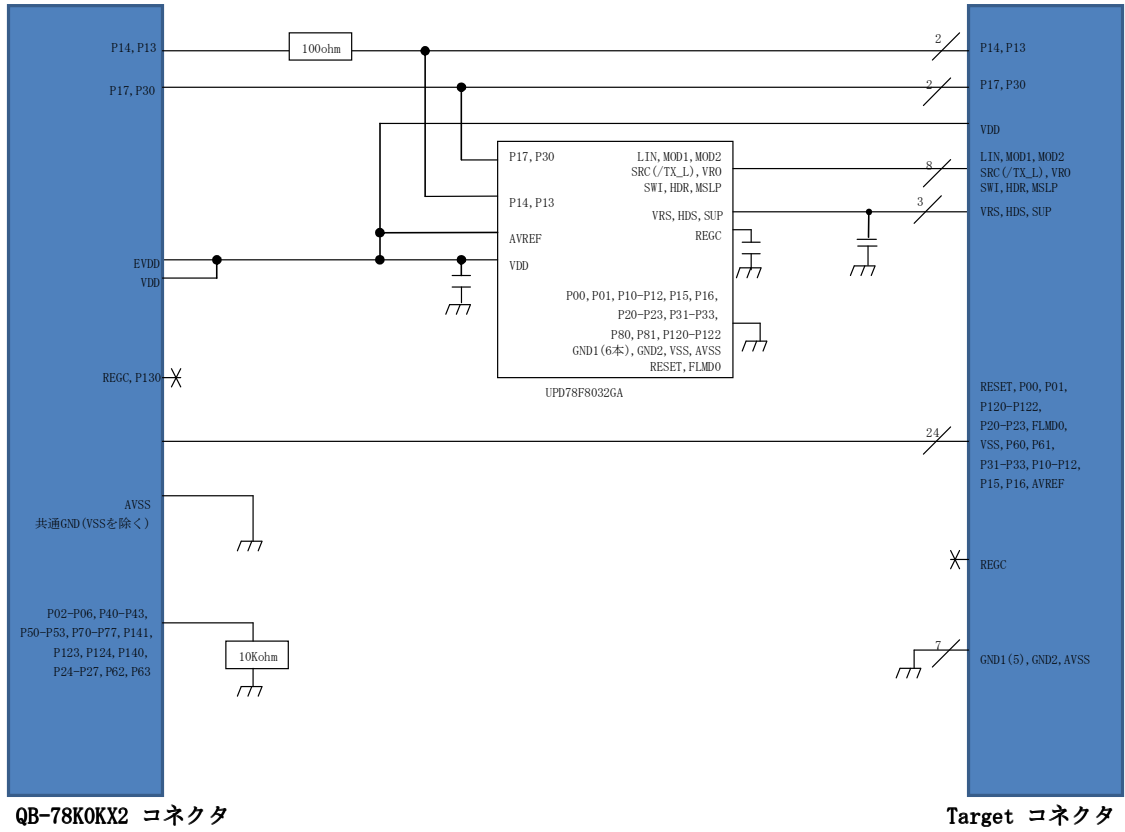


Figure 1-1. Emulation System Configuration for  $\mu$ PD78F8026/78F8027/78F8028/78F8029/78F8030/78F8032D



- |                                                   |                                                                                            |
|---------------------------------------------------|--------------------------------------------------------------------------------------------|
| <1> Host machine:                                 | Windows PC (Windows2000 and WindowsXP)<br>IBM PC/AT compatible can be used                 |
| <2> ID78K0-QB Disk/Accessory Disk:                | Debugger, USB drivers, manual, etc.                                                        |
| <3> USB interface cable:                          | Cable connecting QB-78K0KX2 to host machine                                                |
| <4> AC adapter:                                   | AC adapters classified by region                                                           |
| <5> QB-78K0KX2:                                   | In-Circuit Emulator                                                                        |
| <6> Check pin adapter:                            | Adapter used when observing waveforms on oscilloscope                                      |
| <7> Emulation probe:                              | Flexible type of emulation probe                                                           |
| <8> Exchange adapter:<br><b>QB-78F8032-EA-02T</b> | <b>On board LIN transceiver and Voltage Regulator adapter that performs pin conversion</b> |
| <9> Target connector:<br>QB-48K8-NQ-01T           | Connector soldered to target system                                                        |
| <10> Target system                                |                                                                                            |

### QB-78F8032-EA-02T Block Diagram



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## 第2章 注意事項

1. QB-78F8032-EA-02T は、電源回路、LIN トランシーバ回路の過熱保護機能を保証していません。  
QB-78F8032-EA-02T を過熱状態および過電流状態で使用しないでください。
2. QB-78F8032-EA-02T 上の SUP,AVREF,VDD 端子にターゲット・ボードから電源が必ず供給された状態でデバッグしてください。
3. SUP と HDS は同電位,VRO,VRS と VDD 端子は同電位としてください。
4. SUP,HDR,HDS,LIN,SWI 端子には、20V 以上印加しないでください。

## CHAPTER 2 CAUTIONS

1. The over temperature protect function of Voltage regulator circuit and LIN transceiver circuit is not guarantee on QB-78F8032-EA-02T. To operate with overheat or over current on QB-78F8032-EA-02T is not allowed.
2. In the debug, SUP, AVREF, VDD terminal on QB-78F8032-EA-02T have to be supplied power by target board.
3. Make SUP the same potential as HDS, and make VDD the same potential as VRO, VRS.
4. To supply the SUP, HDR, HDS, LIN and SWI terminal more than 20V is not allowed.

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