

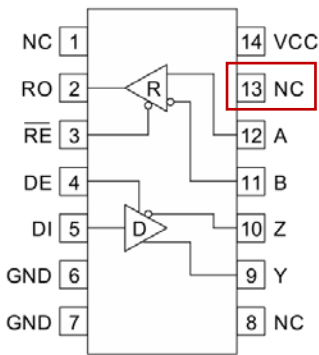
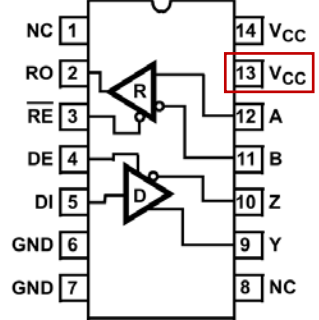
Accounting for the Pin 13 Difference in the SOIC-14 Package for the RS-485/422 Transceiver ICs

Introduction

In general, the RS485/422 transceivers available are pin-to-pin compatible with respect to the SOIC-14 package option, but there are exceptions with pin 13. Some devices have pin 13 as no connect (NC), while others have it tied to VCC. This application note details how to manage this difference.

1. Pin 13 of Transceiver ICs

The following table lists the part number of transceivers with pin 13 as either NC or VCC.

Part Number	Pin Assignment
<p>ISL83070E, ISL83076E, ISL83080E, ISL83086E ISL8489E, ISL8491E, ISL32470E, ISL3160E RAA788170, RAA788173, RAA788176 RAA788150, RAA788153, RAA788156 ISL3150E, ISL3156E, ISL3180E, ISL4489E ISL3170E, ISL3173E, ISL3176E</p>	
<p>ISL83491 ISL31470E ISL31490E, ISL31496E ISL32496E</p>	

2. Handling of Pin 13 After Device Porting

There are four possibilities of connection on pin 13 when performing a device porting, depending on the selected device. The following table shows the combination of all the connections.

Pin 13 on Old Device	Pin 13 on New Device	PCB Layout Changes on Pin 13
VCC	VCC	No
VCC	NC	No ⁽¹⁾
NC	NC	No
NC	VCC	Yes

1. There is no connection internally to the NC pin 13. Therefore, the VCC connection can be kept with NC pin 13 on a new device.

Assuming that there is no connection to the NC pin in the PCB design of an old device, porting to new device only causes PCB layout changes for the case of NC to VCC.

3. Revision History

Revision	Date	Description
1.00	Jun 1, 2026	Initial release.

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Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu,
Koto-ku, Tokyo 135-0061, Japan
www.renesas.com

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