

Connecting \overline{ENUM} Terminal to an External Open-Drain Buffer

Mu Afzal

MSDS PCI

ABSTRACT

This application note describes how to connect the cPCI hot-swap signal \overline{ENUM} on the PCI2250 to an external open-drain buffer.

Contents

1	Introduction	2
2	Description of Problem	2
3	Workarounds	2
	3.1 Using Texas Instruments' Single-FET Bus Switch	2
	3.2 Using Fairchild Semiconductor's MM74C906M Open-Drain Pulldown Buffer	3

List of Figures

1	Connecting PCI2250 to TI's SN74CBTS1G125	2
2	Connecting PCI2250 to Fairchild's MM74906	3

1 Introduction

The purpose of this application note is to describe how to connect the cPCI hot-swap signal $\overline{\text{ENUM}}$ on the PCI2250 to an external open-drain buffer.

2 Description of Problem

According to the cPCI hot-swap specification, the $\overline{\text{ENUM}}$ signal must be an open-drain output. However, $\overline{\text{ENUM}}$ is not implemented as an open-drain buffer on the PCI2250. The PCI2250 will actively drive $\overline{\text{ENUM}}$ when a hot-swap event has not occurred. This will cause contention on $\overline{\text{ENUM}}$ if another device is also driving this signal.

3 Workarounds

The problem can be easily fixed by adding an external open-drain buffer. Two solutions are proposed in this document.

3.1 Using Texas Instruments' Single-FET Bus Switch

In this implementation, the $\overline{\text{ENUM}}$ output from the PCI2250 is connected to TI's SN74CBTS1G125 single-FET bus switch, as shown in Figure 1.

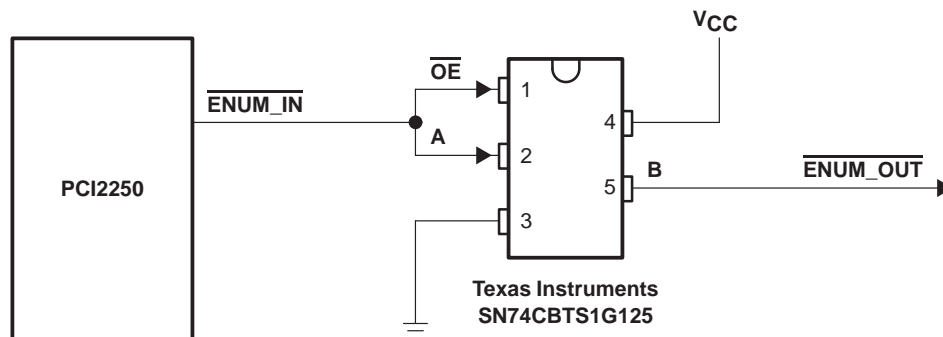


Figure 1. Connecting PCI2250 to TI's SN74CBTS1G125

$\overline{\text{ENUM_IN}}$ is the output from the PCI2250 and an input to the switch. $\overline{\text{ENUM_OUT}}$ is the open-drain output from the switch, which should be used in the system.

3.2 Using Fairchild Semiconductor’s MM74C906M Open-Drain Pulldown Buffer

Fairchild Semiconductor’s MM74C906M part is available in the SOP or DIP package. System designers may choose the appropriate package to fit the needs of their systems. Using this buffer, \overline{ENUM} should be connected as shown in Figure 2.

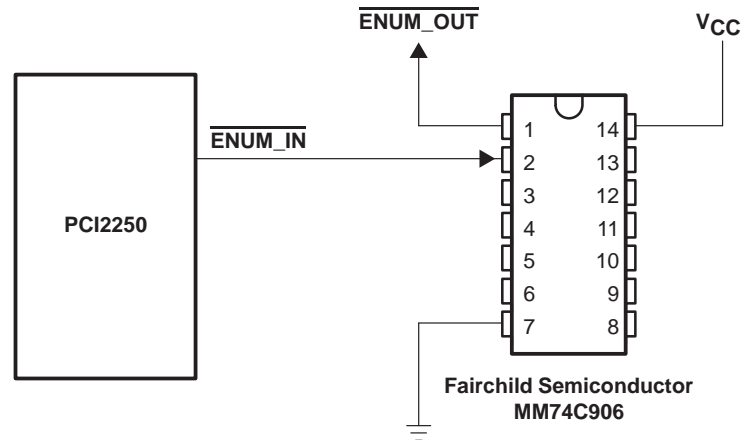


Figure 2. Connecting PCI2250 to Fairchild’s MM74906

$\overline{ENUM_IN}$ is the output from the PCI2250 and an input to the open-drain buffer. $\overline{ENUM_OUT}$ is the open-drain output from the buffer, which should be used in the system.

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