Isolated Profibus Interface Reference Design

(ACTIVE) TIDA-00005

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Description

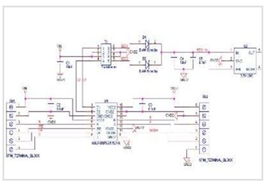
This reference design provides an isolated, 40-Mbps, 3.3-V to 5-V Profibus interface using the ISO1176T, isolated Profibus transceiver and the TPS76350 high-accuracy linear regulator. This circuit achieves signal and power isolation and at the same time decreases board space and power consumption.

Features

- 4000V peak isolation, 560V peak VIORM
- Signaling rates up to 40Mbps
- Differential output exceeds 2.1V (54 Ohm load)
- Low bus capacitance of 10pF (Max)
- Fail-safe receiver for bus open, short, or idle
- This reference design is orderable

Schematic/Block Diagram

Quickly understand overall system functionality.



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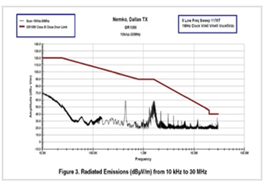

Figure 3. Radiated Emissions (dBµV/m) from 10 kHz to 30 MHz

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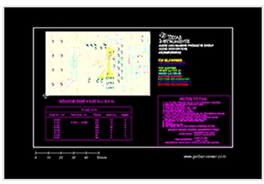
Design Files

Download ready-to-use system files to speed your design process. Get Viewer.



Download Design File

TI Devices (1)

Order samples, get tools and find more information on the TI products in this reference design.

Part Number	Name	Product Family	Sample & Buy	Design Kits & Evaluation Modules
ISO1176T	Isolated ProfiBus Transceiver with integrated transformer driver	Isolator	Sample & Buy	View Design Kits & Evaluation Modules

Bill of Materials

Find the complete list of components in this reference design.

Download BOM

CAD/CAE Symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
ISO1176T	SOIC (DW) | 16	Download	Download

Texas Instruments and Accelerated Designs Inc. have collaborated together to provide TI customers with schematic symbols and PCB layout footprints for TI products.

Step 1: Download and install the Ultra Librarian software ZIP: 62MB

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Technical Documents

User Guides (1)

Title	Abstract	Type	Size (KB)	Date	Views
TIDA-00005 Test Results		PDF	563	26 Sep 2013	147

More Literature (2)

Title	Abstract	Type	Size (KB)	Date	Views
TIDA-00005 BOM		PDF	98	26 Sep 2013	150
TIDA-00005 Schematic		PDF	48	26 Sep 2013	185

Related Tools & Software

Software (1)

TIDA-00005 Gerber
(ZIP, 320 KB) 138 views, 26 Sep 2013

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