

High-Performance Single-Chip GPIB Talker/Listener ASIC – NI TNT5002

interface. GEN4882 and GEN9914 modes implement a generic I/O interface. You can change the register set dynamically because the pinout does not change between the two sets. However, the interface must be selected by the MODE pin and must not be changed dynamically because the pinout is significantly different between interfaces.

The TNT5002 has two different pin configurations. The generic pin configuration provides a simple interface to any CPU (Figure 1). With the PCI pin configuration, you can connect the TNT5002 directly to a PCI bus (Figure 3).

Software API

The TNT5002 is fully compatible with NI-Device software. NI-Device provides a powerful API with which instrument developers can create bus-independent firmware for their ANSI/IEEE Standard 488.2-1992 devices. The TNT5002 is compatible with the NI-Device DDK (driver development kit) and you can use plug-in boards that incorporate the ASIC with regular NI-Device packages on instruments running Windows OSs.

Developer Kit

To assist in the TNT5002 hardware design and software implementation, NI offers a special developer kit, which contains five TNT5002 samples, a plug-in evaluation board, high-performance NI-Device DDK source code software, and software and hardware reference manuals. This kit is available to all interested developers who want to use the TNT5002 in their designs.

RoHS Compliance

NI currently offers the TNT5002 in both a standard package and a RoHS-compliant chip. You can order the chips using the part numbers shown below. The RoHS-compliant parts are identified through the added “F” at the end of the part number and the chip itself is marked with an e3 inside an ellipse to indicate a pure tin lead finish in accordance with the marking recommendations defined in JEDEC JESD97. The TNT5002 RoHS-compliant ASICs have a matte pure tin finish on their leads.

The RoHS-compliant TNT5002 meets industry requirements for baking and maximum solder reflow temperature. The baking requirements are outlined in JEDEC J-STD-033, and NI recommends using the solder reflow profile as shown in IPC/JEDEC J-STD-020C with a peak temperature of 260 °C, the maximum temperature they can withstand. The Moisture Sensitivity Level (MSL) for the RoHS-compliant surface mount TNT5002 ASIC is 3.

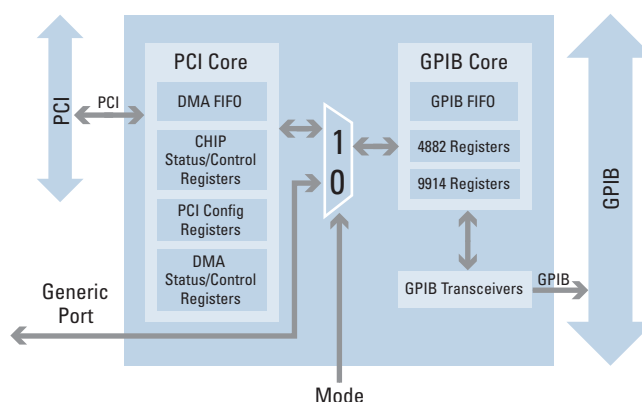


Figure 2. TNT5002 Block Diagram

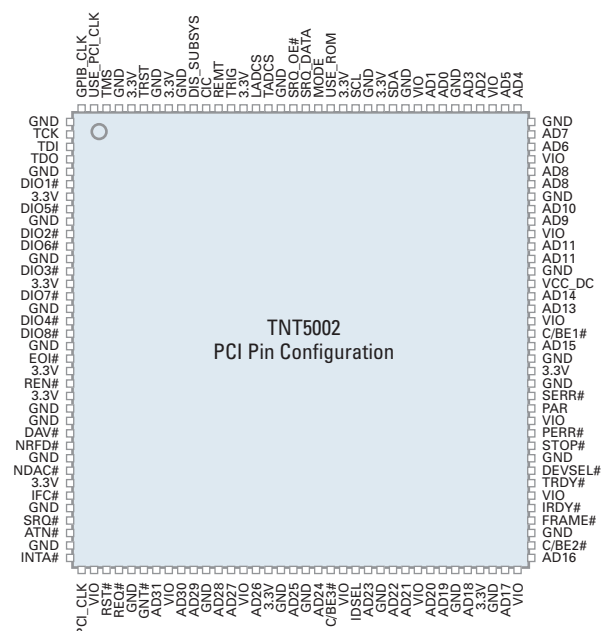


Figure 3. TNT5002 PCI Pin Configuration

Ordering Information

NI TNT5002-AQ

RoHS-compliantTNT5002-AQF24

StandardTNT5002-AQ24

Developer kit (RoHS-compliant)778582-01

Sample kit (RoHS-compliant, 5 ASICs)778583-01

Visit ni.com for a more detailed reference manual.

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2006-7907-385-101-D