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# 89H16NT16G2
# 16-lane, 16-port PCIe Gen2 System Interconnect Switch

Provides 16 PCIe Gen2 lanes and 16 ports of high-performance, deterministic system interconnect switching. All ports receive full line rate, non-blocking throughput for multiple traffic flows regardless of switch loading.

## Features

- 16 PCIe Gen2 Lanes, 16 Switch Ports
- Non-blocking switch architecture optimized for High Performance System Interconnect
- Partionable switch architecture for true mutli-root support
- Multiple Nontransparent Bridging functions supported (NTB)
- Movable upstream support
- On-board DMA support
- Internal buffering and flow control credits optimized for maximum bandwidth and large payloads
- Low latency, Low power

## Product Specification

| PCIe Lanes (#) | Ports (#) | PCIe Generation | Pkg. Code | Pkg. Type | Length (mm) | Width (mm) | Temp. Grade |
|---|---|---|---|---|---|---|---|
| 16 | 16 | Gen2 | HLG324, HL324 | FCBGA | 19 | 19 | C, I |

## Product Options

| Orderable Part ID | Part Status | Pkg. Code | Pkg. Type | Lead Count (#) | Temp. Grade | Pb (Lead) Free | Carrier Type | Sample & Buy |
|---|---|---|---|---|---|---|---|---|
| 89H16NT16G2ZBHL | Active | HL324 | FCBGA | 324 | C | No | Tray | Check Availability |
| 89H16NT16G2ZBHL8 | Active | HL324 | FCBGA | 324 | C | No | Reel | Check Availability |
| 89H16NT16G2ZBHLG | Active | HLG324 | FCBGA | 324 | C | Yes | Tray | Check Availability |
| 89H16NT16G2ZBHLG8 | Active | HLG324 | FCBGA | 324 | C | Yes | Reel | Check Availability |
| 89H16NT16G2ZBHLGI | Active | HLG324 | FCBGA | 324 | I | Yes | Tray | Check Availability |
| 89H16NT16G2ZBHLGI8 | Active | HLG324 | FCBGA | 324 | I | Yes | Reel | Check Availability |
| 89H16NT16G2ZBHLI | Active | HL324 | FCBGA | 324 | I | No | Tray | Check Availability |
| 89H16NT16G2ZBHLI8 | Active | HL324 | FCBGA | 324 | I | No | Reel | Check Availability |
| 89H16NT16G2ZCHL | Active | HL324 | FCBGA | 324 | C | No | Tray | Check Availability |
| 89H16NT16G2ZCHL8 | Active | HL324 | FCBGA | 324 | C | No | Reel | Check Availability |
| 89H16NT16G2ZCHLG | Active | HLG324 | FCBGA | 324 | C | Yes | Tray | Check Availability |
| 89H16NT16G2ZCHLG8 | Active | HLG324 | FCBGA | 324 | C | Yes | Reel | Check Availability |
| 89H16NT16G2ZCHLGI | Active | HLG324 | FCBGA | 324 | I | Yes | Tray | Check Availability |
| 89H16NT16G2ZCHLGI8 | Active | HLG324 | FCBGA | 324 | I | Yes | Reel | Check Availability |
| 89H16NT16G2ZCHLI | Active | HL324 | FCBGA | 324 | I | No | Tray | Check Availability |
| 89H16NT16G2ZCHLI8 | Active | HL324 | FCBGA | 324 | I | No | Reel | Check Availability |

## Technical Documentation

| | Title | Type | Format | File Size | Date |
|---|---|---|---|---|---|
| **Datasheets & Errata** | | | | | |
| | 89HPES16NT16G2 Datasheet | Datasheet | PDF | 275 KB | 12/17/2013 |
| 🔒 | 89HPES16NT16G2 Device Errata (Revision ZC) | Errata | PDF | 137 KB | 06/24/2011 |
| 🔒 | 89HPES16NT16G2 Device Errata (Revision ZB) | Errata | PDF | 142 KB | 06/24/2011 |
| | show all (4) | | | | |
| **User Guides & Manuals** | | | | | |
| | 89HPES16NT16G2 Device User Manual | Manual | PDF | 7.44 MB | 07/10/2013 |
| | PCI Express Browser Rev 5.0.2 User Manual | Manual | PDF | 2.49 MB | 12/03/2010 |
| **Apps Notes & White Papers** | | | | | |
| | AN-821: SerDes Configuration for Industrial Temperature | Application Note | PDF | 123 KB | 03/06/2014 |
| | AN-727: PES32NT24AG2 Hardware Design Guide | Application Note | PDF | 505 KB | 05/05/2011 |
| | AN-715, Multi-Port SSC Support in IDT PCIe Gen2 Switches | Application Note | PDF | 312 KB | 10/26/2009 |
| | show all (13) | | | | |
| **Other** | | | | | |
| | IDT PCI Express Solutions Overview | Overview | PDF | 2.43 MB | 08/14/2013 |
| | 89HPES16NT16G2 OrCAD symbol | Misc | Composite Document File V2 Document, No summary info | 29 KB | 07/09/2010 |
| | 89HPES16NT16G2 Product Brief | Product Brief | PDF | 350 KB | 09/15/2009 |

## Software & Tools

| | Title | Type | Format | File Size | Date |
|---|---|---|---|---|---|
| | 89HPES16NT16G2 BSDL (Revision ZA) | Model - BSDL | TXT | 20 KB | 02/08/2010 |
| | 89HPES16NT16G2 BSDL (Revision ZB) | Model - BSDL | TXT | 20 KB | 01/04/2011 |
| | 89HPES16NT16G2 BSDL (Revision ZC) | Model - BSDL | TXT | 20 KB | 05/10/2011 |
| | PCI Express Browser Rev 5.0.2 Linux Installation | Software Tool | application/x-gzip | 51.33 MB | 06/10/2014 |
| | PCI Express Browser Rev 5.0.2 Windows Installation | Software Tool | ZIP | 54.45 MB | 12/03/2010 |
| | PCI Express Browser Rev 5.0.2 Windows Installation - Digitaly Signed | Software Tool | ZIP | 104.57 MB | 06/16/2011 |

## Evaluation Boards

Evaluation Board SDK for the 89H16NT16G2

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