



New Product Announcement

PI6CG330440

19-Output PCIe 5.0 Clock Generator for Server and Data-Center Applications

The DIODES™ PI6CG330440 is a 19-output, low-power, PCIe® 5.0 compliant clock generator specifically designed for Intel® CK440Q clock generator design specifications, which supports the latest high performance computing (HPC) and data-center applications.

All of the PI6CG330440's 19 outputs have differential high-speed current-steering logic (HCSL) formatting with on-chip terminations that deliver the following frequencies:

- 7 at fixed 100MHz
- 3 at fixed 25MHz
- 9 selectable frequencies of 25MHz or 100MHz

Using Diodes Incorporated's (Diodes) proprietary clock generator designs, the device achieves very low <math><50\text{fs}</math> jitter for clock signals – substantially lower than the CK440Q's 80fs specification. This ultra-low jitter performance makes it an ideal timing solution for server, HPC, and data-center applications.

The PI6CG330440 is available in the compact 8mm x 8mm x 0.6mm U-QFN8080-100 package.

Intel is a registered trademark of Intel Corporation or its subsidiaries

PCI Express®, PCIe®, PCI-SIG®, and PCI™ are trademarks or registered trademarks and/or service marks of PCI-SIG Corporation.

DIODES is a trademark of Diodes Incorporated in the United States and other countries.

The Diodes logo is a registered trademark of Diodes Incorporated in the United States and other countries.

© 2022 Copyright Diodes Incorporated. All Rights Reserved.



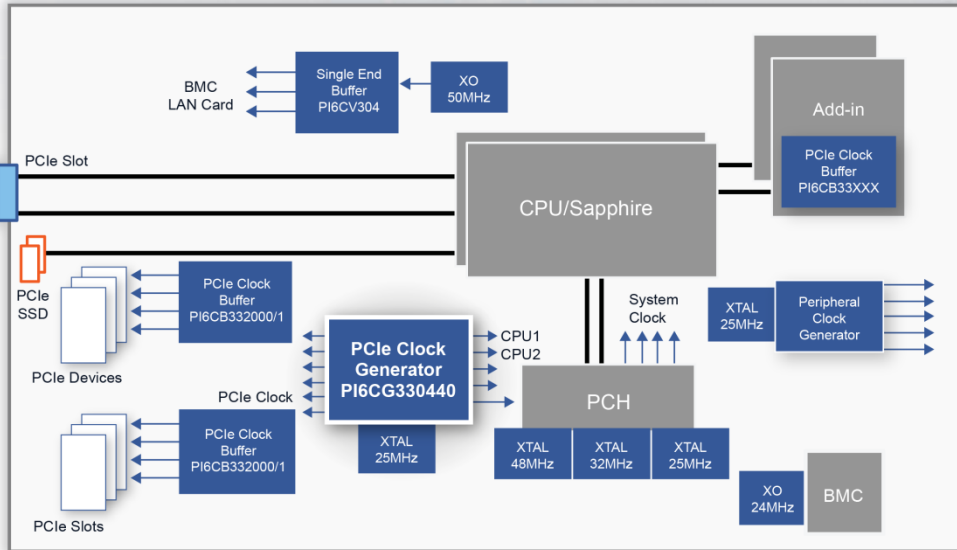
The DIODES™ Advantage

- **Compliant with Intel CK440Q clock generator specifications**
Provides a proven PCIe 5.0 main clock synthesizer to support Intel's HPC and server platforms
- **Very low <math><50\text{fs}_{\text{RMS}}</math> jitter beating the 80fs spec limit**
Enables robust and reliable system design through good timing margins
- **On-chip 85Ω termination, saving up to 80 external resistors**
Reduces bill of materials (BOM), saves board space, and simplifies PCB layout
- **19-differential outputs (7x dedicated 100MHz, 3x dedicated 25MHz, and 9x selectable 25/100MHz)**
Delivers a flexible, robust, and high-performance clock generator for PCIe 5.0 systems

Applications

- Servers
- Data centers
- High-performance computing

Typical Server Application



PCIe 5.0 Clock Generator Portfolio

Part Number	# of Outputs	Output Impedance	Supply Voltage	Package
PI6CG330440	19	85Ω	3.3V	U-QFN8080-100 (8mm x 8mm)
PI6CG33801	8	100Ω	3.3V	V-QFN6060-48 (6mm x 6mm)
PI6CG33802	8	85Ω	3.3V	V-QFN6060-48 (6mm x 6mm)
PI6CG33601	6	100Ω	3.3V	W-QFN5050-40 (5mm x 5mm)
PI6CG33602	6	85Ω	3.3V	W-QFN5050-40 (5mm x 5mm)
PI6CG33401	4	100Ω	3.3V	W-QFN5050-32 (5mm x 5mm)
PI6CG33402	4	85Ω	3.3V	W-QFN5050-32 (5mm x 5mm)
PI6CG33201	2	100Ω	3.3V	V-QFN4040-24 (4mm x 4mm)
PI6CG33202	2	85Ω	3.3V	V-QFN4040-24 (4mm x 4mm)

Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Package Code	Package	Moisture Sensitivity	Quantity per Reel	Pin 1 Orientation in Tape (Note 1)
PI6CG330440ZUDIEX	Standard	ZUD	U-QFN8080-100	MSL-3	3000	Top Right Corner
PI6CG330440ZUDIEX-13R	Standard	ZUD	U-QFN8080-100	MSL-3	3000	Top Left Corner

Note 1. Pin 1 Orientation in Tape

