

Products

Signal Integrity



PRODUCTS ▾

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Semtech GN2406

ClearEdge® Quad 10Gbps CDR with Transmit De-Emphasis



The Genum® GN2406 is a quad repeater/re-timer device designed to enhance the reach and robustness of high speed serial links by compensating for transmission losses and re-setting the crosstalk and jitter budget.

The GN2406 features Genum’s proven reference-free CDR architecture which simplifies system design and reduces overall cost. Each channel supports independent locking to data rates from 9.95 - 11.3Gbps. To enable backward compatibility with legacy data rates, half rate (5Gbps) and quarter rate (2.5Gbps) operation is also supported. Other rates can be supported using the re-timer bypass feature.

High sensitivity limiting amplifiers at the input make this device suitable for use in optical modules. Genum’s proprietary ClearEdge® technology ensures extremely low output jitter. Copper cable or backplane trace losses of up to 28dB can be compensated using the output de-emphasis capability.

Overview ▾

Features

- Automatic locking from 9.95Gbps to 11.3Gbps
- Automatic rate detect for quarter rate (2.5Gbps) and half rate (5Gbps) modes
- Re-timer bypass up to 11.3Gbps
- No reference clock required
- Integrated limiting amplifier, with 10mV to 1600mV differential input voltage range
- Programmable output, with 400mV to 800mV differential output voltage range
- Independent channel operation
- De-emphasis to compensate up to 28dB of loss
- Polarity inversion
- I2C control interface
- Automatically loads configuration data from E2PROM
- Loss of signal detect with adjustable threshold
- Low power dissipation
- Single 3.3V supply
- 7x7mm, 48-pin QFN package

Applications

- Active Copper Cable assemblies and optical modules for:
 - Infiniband® SDR/DDR/QDR
 - 40Gbps and 100Gbps Ethernet
- Re-timer on line card for:
 - QSFP modules
 - Parallel optical modules
 - SFP+ modules
- 10Gbps serial backplane retimer

Order Codes

Part No

Package

GN2406-INE3

48 pin QFN

Datasheets and Resources >

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Signal Integrity Products

- Clock & Data Recovery
- Laser Drivers and Transceivers
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- ROSAs
- Signal Conditioners
- Transimpedance Amplifiers

Blog Articles

- Semtech and the Open Eye MSA Redefine Optical Networking Standards
- Optics MSA: QSFP-DD Puts PAM4 Signaling in the Driver’s Seat
- A Revolution in Embedded Optics, or a Partner to Pluggables? Thoughts on COBO

In the News

- Next-generation Data Center with Multimodal Interconnectivity
- Semtech’s Tri-Edge CDR SR Solutions Address Next-Gen Data-Center Multimode Interconnectivity
- Semtech’s PAM4 CDR platform goes in to production

Press Releases

- Semtech Announces Sampling of Industry-leading IC Solution for 5G Wireless Market
- Semtech Releases Its Newest PON-X™ Device for 10G PON Optical Network Units
- Semtech Announces the Immediate Availability of FiberEdge™ Driver for 5G Wireless Applications

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