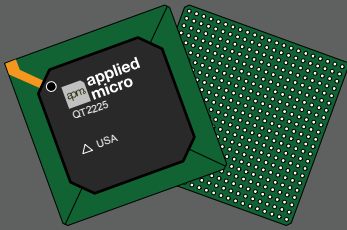


Dual Port Serial 10Gbps-to-XAUI Transceiver with Adaptive EDC

Product Brief
Rev 1

Notice:

MACOM Technology Solutions Inc. All rights reserved. Information in this document is provided in connection with MACOM Technology Solutions Inc. ("MACOM") products. These materials were prepared by Applied Micro Circuits Corporation prior to its acquisition by MACOM and are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppels or otherwise, to any intellectual property rights is granted by this document. THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS. MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.



The **QT2225** is a dual-port fully integrated 9.95-10.52 Gbps transceiver with adaptive Electronic Dispersion Compensation (EDC). The device provides a high performance interface between a MAC or switch device and copper media including Direct Attach cable and 10GBASE-KR backplanes. The data rate is switchable to 1.25 Gbps, allowing dual 1000BASE-KX / 10GBASE-KR support on a single backplane.

Features

- Dual port 1G/10G: 1/10GE LAN/WAN & 1/10GFC
- Advanced EDC engine with auto tap weight adjustment & advanced tracking
- 10G high-speed interface with integrated EDC and transmit wave shaping
- XAUI interface with equalization and transmit wave shaping
- Integrated loopbacks and test features
- Compliant to applicable IEEE & INCITS Specs

Backplane Specific Features

- 1000BASE-KX and 10GBASE-KR data over 1m of backplane and multiple connectors
- Auto-negotiation and training
- Integrated FEC with bypass

SFP+ Specific Features

- SFP+ modules for limiting & linear applications
- 1GE for SFP
- Passive and Active Direct Attach SFP+ cable support (twinax)

XFP Module Specific Features

- High performance XFI interface

Description

It can also interface to optical media including SFP+, SFP and XFP modules. When designing for SFP+ applications, customers can generate one dual-rate design that supports SFP+ modules (10GBASE-R) and SFP modules (1000BASE-X), as well as Twinax cable, providing maximum medium flexibility.

In the receive direction the device uses a sophisticated EDC engine that continuously adapts itself to the channel characteristics providing an optimum level of performance regardless of environmental conditions. The QT2225-1 was designed to exceed the performance specified in the 10GBASE-LRM Standard.

In the transmit direction, the 10Gbps driver utilizes signal equalization to compensate for degradation due to copper traces and connectors in the signal path.

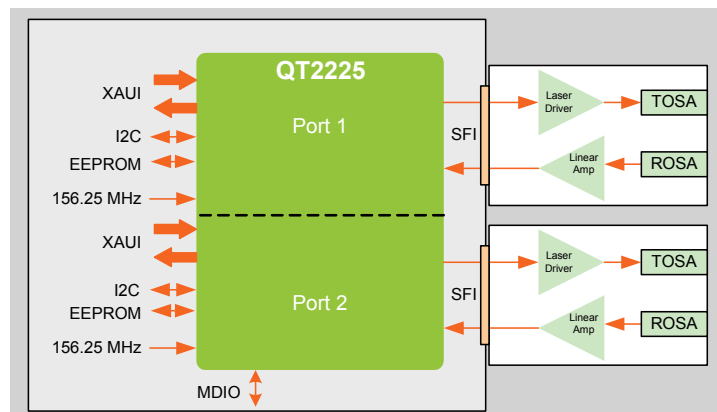
Applications

QT2225:

- Backplane 10GBASE-KR /1000BASE-KX
- Hostboard termination for SFP+/SFP limiting modules including 10GBASE-SR, -LR & 1000BASE-X
- Passive & Active Direct Attach SFP+ cable support
- Hostboard termination for XFP modules including 10GBASE-R & -W protocols

QT2225-1:

- Hostboard Termination for SFP+/SFP limiting & linear modules: 10GBASE-LRM, -SR, -LR & 1000BASE-X
- Passive & Active Direct Attach SFP+ cable support



QT2225/QT2225-1 System Block Diagram

Characteristics

Electrical

- Power supplies 1.2 V, 1.8 V
 - Power Dissipation 1.5 W Typ (per port)
 - ESD 2 kV (HBM) except High-Speed I/Os
-

Mechanical

- Package 23 x 23 mm² Flip Chip BGA
- Ball spacing 1.0 mm
- Environmentally friendly package RoHS Compliant Option

APPLIEDMICRO.COM™

For technical support inquiries, submit your product related questions to support@appliedmicro.com.

AppliedMicro reserves the right to make changes to its products, its data sheets, or related documentation, without notice and warrants its products solely pursuant to its terms and conditions of sale, only to substantially comply with the latest available data sheet. Please consult AppliedMicro's Term and Conditions of Sale for its warranties and other terms, conditions and limitations. AppliedMicro may discontinue any semiconductor product or service without notice, and advises its customers to obtain the latest version of relevant information to verify, before placing orders, that the information is current. AppliedMicro does not assume any liability arising out of the application or use of any product or circuit described herein, neither does it convey any license under its patent rights nor the rights of others. AppliedMicro reserves the right to ship devices of higher grade in place of those of lower grade.

APPLIEDMICRO SEMICONDUCTOR PRODUCTS ARE NOT DESIGNED, INTENDED, AUTHORIZED, OR WARRANTED TO BE SUITABLE FOR USE IN LIFE-SUPPORT APPLICATIONS, DEVICES OR SYSTEMS OR OTHER CRITICAL APPLICATIONS. AppliedMicro is a registered trademark of Applied Micro Circuits Corporation. Power and the Power logo are registered trademarks of Power.org. All other trademarks are the property of their respective holders. Copyright © 2010 Applied Micro Circuits Corporation. All Rights Reserved.

