

MB87Q2092 (McPOM) 10G Ethernet LAN-PHY mapper



Advanced device targeting Ethernet mapping and transport applications

Overview

The MB87Q2092 (McPOM) is a device that targets Ethernet mapping and transport applications. It complements numerous Fujitsu components for 10G SDH/SONET and Ethernet applications as well as 40G SDH/SONET/OTN applications.

The MB87Q2092 (McPOM) combines a number of functions:
 10GBASE-R mapper device SFI-4/SFI-5s/XFI converter 2G5 or 10G asynchronous cross-connect.

The MB87Q2092 (McPOM) is intended to be used in combination with 10Gbps or 40Gbps framer devices, that perform the interfacing with a high-speed optical port. Each McPOM device houses 2 bi-directional 10Gbps channels.

Interfaces

- Three SFI-4 interfaces
 - 16 x 622Mbps for 10Gbps traffic for direct connection to 300-pin MSA optical modules or standard framer devices
 - 4 x 4 x 622Mbps for 4 x 2.5G traffic to connect to standard framer devices
- Two SFI-5s interfaces
 - 4 x 2.5Gbps for 10G traffic to connect to standard 40G framer devices
- Four XFI interfaces
 - 1 x 10Gbps for 10Gbps traffic
 - Glueless interface to XFP modules
- Supported bit rates:
 - STM-64 VC4-64c (or STS-192c)/10GBASE-W (9.95Gbps)
 - 10GBASE-R (10.31Gbps)
 - OTU-2 standard (10.71Gbps)
 - OTU-2 over-clocked (11.05 and 11.1Gbps).

Features

- Multi-standard interfaces
- Multi-rate interfaces
- OTU-2 Mapper/De-mapper
- 10GBASE-R Mapper/De-mapper
 - GFP-F
 - 66B/64B WIS
 - 66B/64B WIS: Pause frames
- Support for 'over-clocking' mode
- 21 x 21 10G cross-connect
- Generic AIS detector and generator
- POH, MSOH, RSOH termination
- OPU-2, OTU-2, ODU-2 overhead support
- 10G Ethernet features
 - MAC layer access
 - Flow control by Pause protocol supporting long distance and short distance applications
 - Counters for performance monitoring, billing applications and bandwidth management
 - Rate shaper
 - Link pass through
 - Frame trapping and insertion for remote in band management
- 32-bit interface to PowerPC
- CTL-ID control interface

Technology and Package

- 0.11μm CMOS technology
- 1.2/2.5V power supply
- 900-pin FC-BGA

Applications

- Signal format conversion for SDH/SONET and OTN applications
- 10G Ethernet mapping into ODU-2 and OTU-2 signals
 - LAN mode (10.33Gbps) to ODU-2
 - WAN mode (9.95Gbps) to ODU-2
- 10G Ethernet transport solution

FACTSHEET MB87Q2092 (McPOM) LAN-PHY MAPPER

Application diagrams

Fig 1: MB87Q2092 (McPOM) used in a 10G OTN application

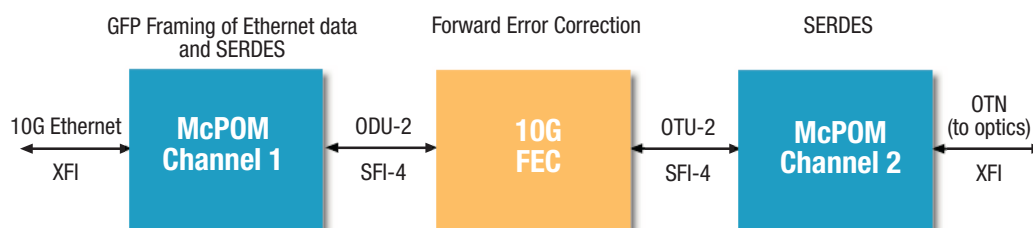


Fig 2: MB87Q2092 (McPOM) used in a double density 10G OTN application

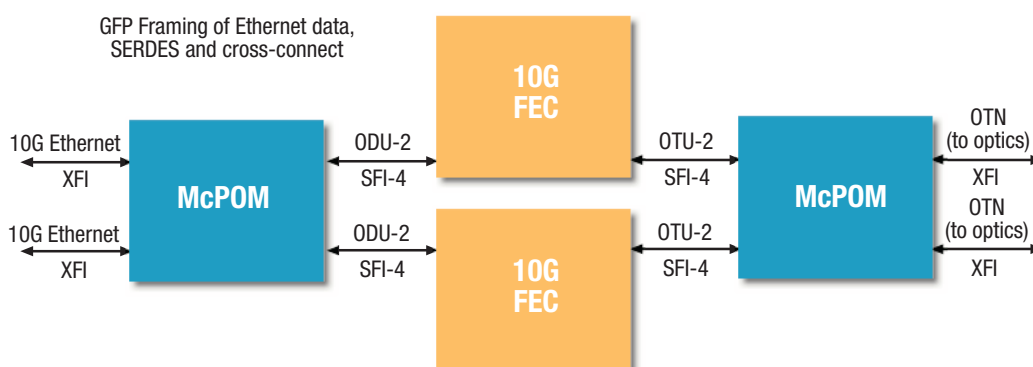


Fig 3: MB87Q2092 (McPOM) used in a 40G OTN application

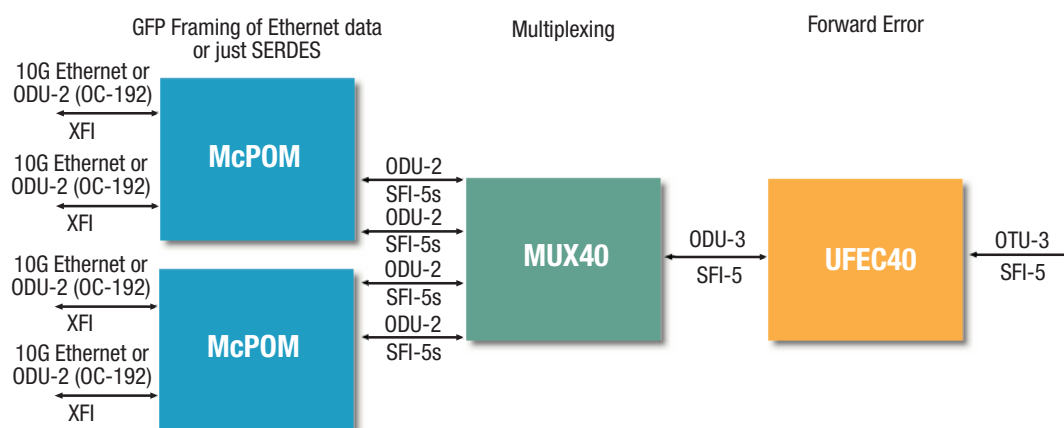
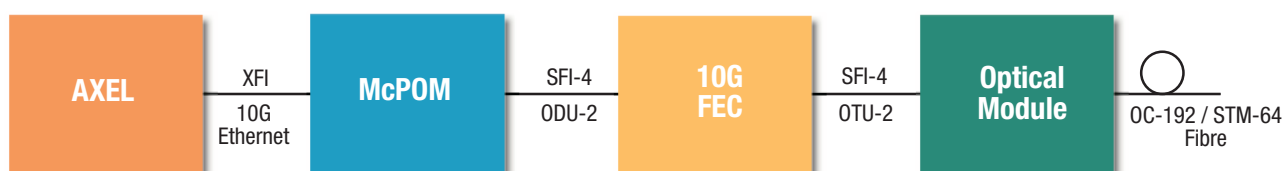


Fig 4: MB87Q2092 (McPOM) used together with 10G Ethernet switch



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