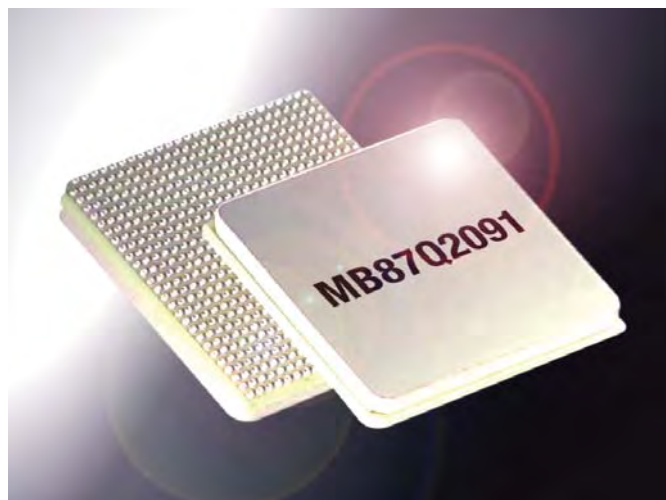


# MB87Q2091 McPOM

## 10G Ethernet LAN-PHY Mapper



Advanced device targeting Ethernet mapping and transport applications.

### Overview

The MB87Q2091 (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 MB87Q2091 combines a number of functions: 10GBASE-R mapper device SFI-4/SFI-5s/XFI converter 2G5 or 10G asynchronous cross-connect.

The MB87Q2091 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 bitrates:
  - STM-64 VC4-64c (or STS-192c)/10GBASE-W (9.95Gbps)
  - 10GBASE-R (10.31Gbps)
  - OTU-2 standard (10.71Gbps)
  - OTU-2 overclocked (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 'overclocking' 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

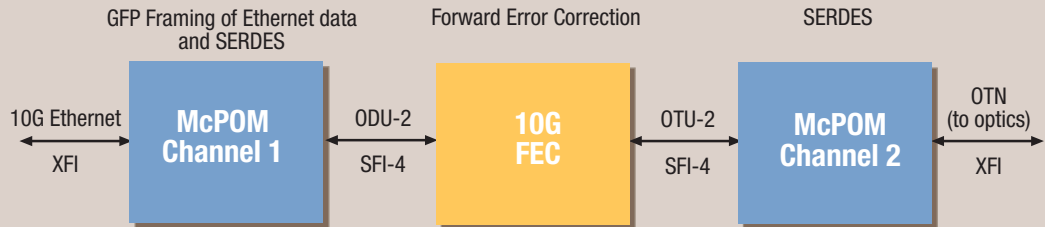
- 0.11µm CMOS technology
- 1.2V/2.5V power supply
- 900-pin FC-BGA

### Applications

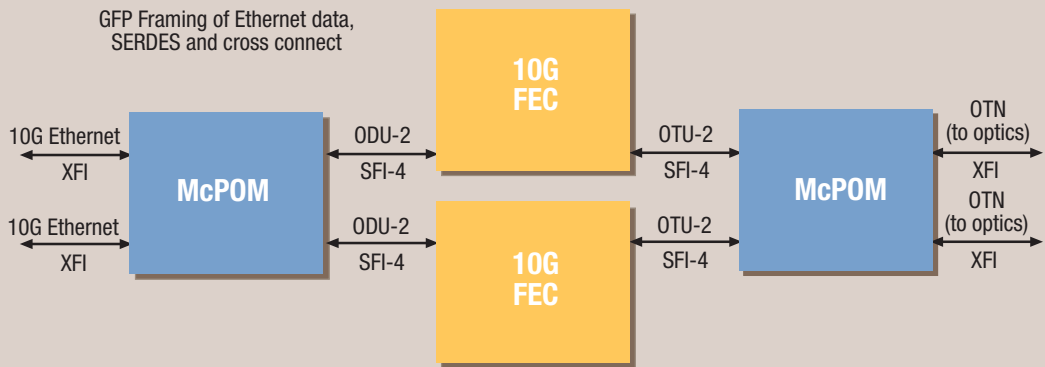
- Signal format conversion for SDH/SONET and OTN applications
- 10G Ethernet mapping into ODU-2 and OTU-2 signals
  - LAN mode (10.33 Gbps) to ODU-2
  - WAN mode (9.95 Gbps) to ODU-2
- 10G Ethernet transport solution

**Application diagrams**

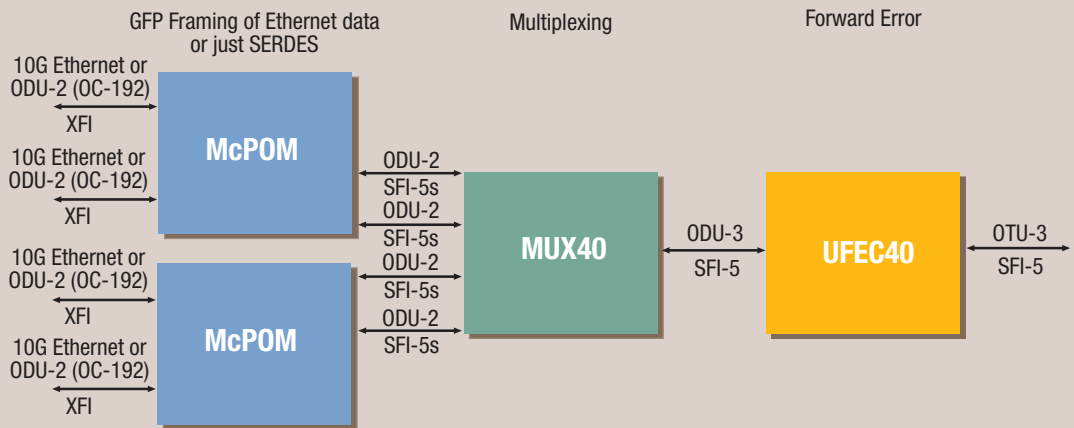
**Fig 1: McPOM used in a 10G OTN application**



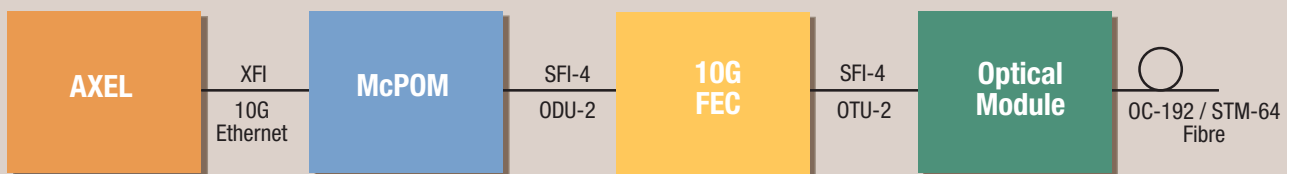
**Fig 2: McPOM used in a double density 10G OTN application**



**Fig 3: McPOM used in a 40G OTN application**



**Fig 4: McPOM used together with 10G Ethernet switch**



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