

Industry-leading Active Optical Cables (AOCs) from Molex achieve 40 Gbps data rates over long reaches up to 10km, using a fraction of the power of other brands while providing streamlined installation

Molex’s low-power AOC integrated cable solutions provide less expensive, reliable transport for aggregated data rates up to 40 Gbps. The AOCs offer customers the flexibility of traditional optical modules by interfacing to systems via a standard QSFP MSA connector. QSFP+ to MPO optical cables allow an easy connection to separately installed single-mode fiber through the attached MPO connectors. Both product versions are electrically compliant with the QSFP+ interface InfiniBand* SDR/DDR/QDR, Ethernet (10 and 40 Gbps), Fibre Channel (8 and 10 Gbps), SAS (6 Gbps) and other protocol applications.

FEATURES AND BENEFITS

- Extremely low power consumption of only 0.78W per cable end, 30% less than competition improves overall data-center power consumption and thermal efficiency and enables deployment of additional ports for increased number of AOCs per system, resulting in more connectivity options and total system cost savings
- Four bi-directional optical data links per end, each operating at data rates from 1.0 to 10.3125 Gbps is compatible with multiple protocols including InfiniBand* single data rates (SDR), dual data rates (DDR) and quad data rates (QDR), Ethernet systems (10 and 40 Gbps), Fibre Channel (8 and 10 Gbps), SAS (6 Gbps)
- Low Bit Error Rate (BER) of 1e-18 errors per link provides increased data reliability and robustness of link versus standard transceivers with 1e-12 errors per link
- High-density QSFP interface provides a compliant connection meeting QSFP+ Multi-Source Agreement (MSA) requirements
- Hot-pluggable transceiver allows insertion and removal of devices without powering down the system
- CMOS photonics-technology-based optical transceiver is integrated on a single CMOS chip, resulting in a low-cost cable delivering high performance and long-term reliability
- Single-mode fiber technology has a longer reach than copper and multi-mode fiber solutions, enabling deployment in datacenter and campus environments
- QSFP+ AOC cables are available in standard lengths up to 300m and custom lengths up to 4km (2.49 miles) for design flexibility
- QSFP+ to MPO cables are connected through short fiber lengths and allow for easy connection to separately installed single-mode fiber

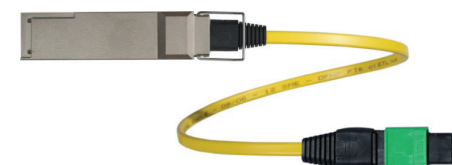
QSFP+ Active Optical Cables

106410 QSFP+ to QSFP+

106414 QSFP+ to MPO



QSFP+ Active Optical Cable (Series 106410)



QSFP+ to MPO Cables (Series 106414)

- QSFP+ to MPO cables are available with budgets of 2 and 4dB, enabling links up to 10km to support use in structured cabling systems
- QSFP+ to QSFP+ AOCs are permanently attached to the fiber, with no air gaps, providing protection from environmental contaminants and other user disturbances during installation

SPECIFICATIONS

Reference Information

Packaging:
 Box for 21.00m (68.90’) and above
 Bag for 20.00m (65.62’) and below

Mates With:
 iPass™ 38-circuit connector (Series 75586)
 EMI Cages (Series 74750, 74767, 74768, 74769)
 EMI Cages and Heat Sinks (Series 74750)
 Stacked Integrated Connector and Cage (Series 76871)

Designed In: Millimeters
 RoHS: Yes
 Halogen Free: Yes

Electrical

Voltage: 3.47V max.
 Current: 310mA max.
 Power Consumption:
 0.78W min., 0.97W max.
 Data Rate: 1.0 to 10.325 Gbps

Mechanical

Cable Pull Force: 222.41N (50 lbf) min.
 Fiber Bend Radius: 25.00mm (.984”) min.
 Fiber Type: Single-mode
 Cable Type: Plenum

Physical

Interface: QSFP+
 Operating Temperature: 0 to +70°C

*InfiniBand is a registered trademark of the InfiniBand Trade Association

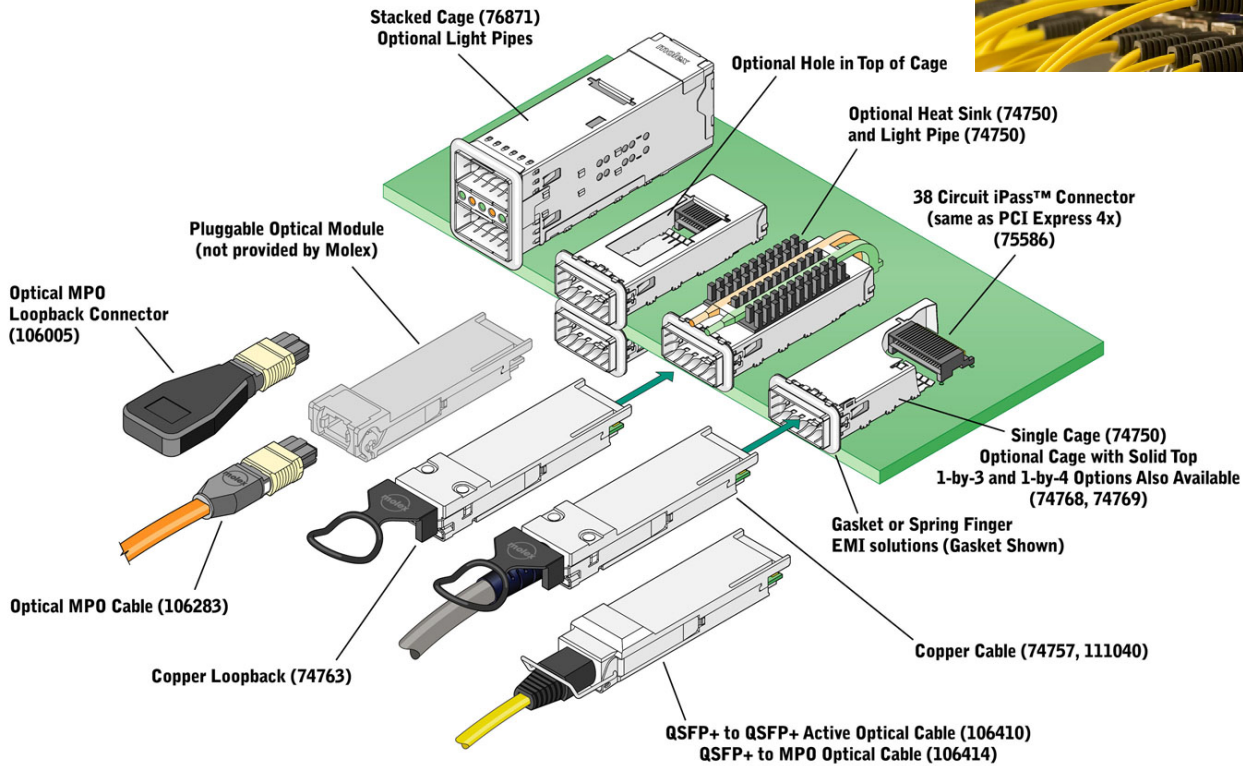
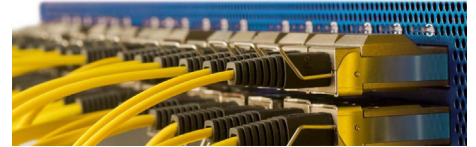
MARKETS AND APPLICATIONS

- Switches
- Routers
- Hubs
- SAN, NIC cards
- Host Bus Adapters (HBAs)

QSFP+ Active Optical Cables

106410 QSFP+ to QSFP+

106414 QSFP+ to MPO



ORDERING INFORMATION

QSFP+ to QSFP+ AOC

Order No.	Cable Length
106410-1001	1.00m (3.28')
106410-1003	3.00m (9.84')
106410-1005	5.00m (16.40')
106410-1007	7.00m (22.97')
106410-1010	10.00m (32.81')
106410-1015	15.00m (49.21')
106410-1020	20.00m (65.62')
106410-1030	30.00m (98.43')
106410-1050	50.00m (164.04')
106410-1100	100.00m (328.08')
106410-1150	150.00m (492.13')
106410-1200	200.00m (656.17')
106410-1300	300.00m (984.25')

QSFP+ to MPO AOC

Order No.	Loss Budget	Cable Length
106414-1201	2dB	1.00m (3.28')
106414-1203		3.00m (9.84')
106414-1205		5.00m (16.40')
106414-1401	4dB	1.00m (3.28')
106414-1403		3.00m (9.84')
106414-1405		5.00m (16.40')