



MXL38999 All Optical Circulares

Our all-optical version of the popular MIL-DTL-38999 Series III connector system uses the Molex LumaCore™ optical terminus technology to deliver dense optical connections with stable optical performance into harsh environments. It is available in all standard shell materials and platings.

MXL38999 introduces the first full range of all optical MIL-DTL-38999 connectors designed specifically for singlemode APC applications. This high level of design integrity enables the connector system to deliver superior optical performance across all optical fiber applications including UPC polish singlemode and multimode fibers.

MXL38999 connectors include precision-machined and plated metallic inserts. Without plastic distortions found in other 38999 connector designs, the MXL38999 connector can deliver stable optical performance across broad temperature ranges. The durability of the connector is further enhanced with a removable alignment sleeve holder. This enables mass cleaning and inspection of the installed LumaCore terminus on both the plug and receptacle.

Features and Benefits

Unique 1/8-turn retention feature allows LumaCore terminus to be installed and removed from the rear of a connector solution with a simple push and turn

Metallic inserts enhance EMI performance of the connector when installed into enclosures

Receptacles available in both jam nut and flange-mount configuration with geometry per MIL-DTL-38999

Plug connectors include an anti-vibration ratchet mechanism in the triple start acme thread coupling ring

Available in aluminum and stainless steel construction

Color banding and product marking are available to customer specifications

Removable alignment sleeve assembly for ease of maintenance and cleaning

MXL38999 Circular Optical Connectors



Suitable for multimode and singlemode applications - PC, UPC and APC end face geometry capable

Precision stainless steel guide pins ensure accurate optical cavity alignment, during and after mating

MIL-DTL-38999 Series III plug to receptacle sealing and accessory threads are standard

Available with full interfacial seal surrounding each terminus for added moisture protection

Specifications

PERFORMANCE CHARACTERISTICS

See LumaCore Optical Terminus

REFERENCE INFORMATION

Body Materials: Aluminum Alloy (Olive Drab Cadmium or Nickel Plated) Stainless Steel (Passivated)

Shell Certifications: QPL per DSCC MIL-DTL-38999 Series III

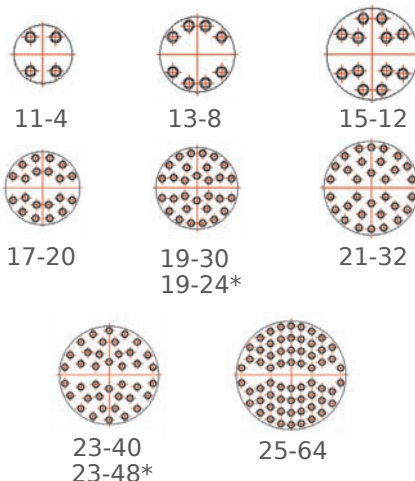
Insert Material: Plated Aluminum Alloy

Guide Pins: Precision-Ground Stainless Steel

Alignment Sleeves: Zirconia Ceramic

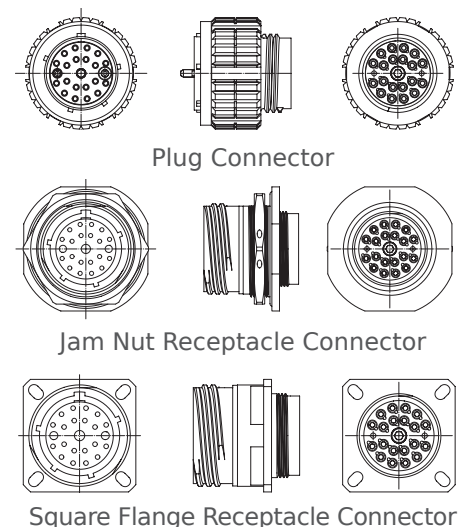
Sealing Gasket: Fluorosilicone Elastomer

External Dimensions: per MIL-DTL-38999
Contact Molex for external and mounting dimensions



Standard Cavity Layouts (Shell Size Cavities)

*Optional cavity layouts



* Additional shell size options



LumaCore™ Optical Terminus

LumaCore™ Technology Shining Through

The COTS (Commercial Off the Shelf) LumaCore terminus from Molex provides a high-performance discrete fiber optic interconnect solution that can be packaged into a number of connector formats. LumaCore products deliver high density solutions with the ease of service and maintainability available in familiar LC or MU solutions. Customers can design systems from backplanes to front panels with a common optical terminus.

LumaCore products use industry-standard 1.25mm Zirconia ceramic ferrules making a full range of support equipment instantly available. The terminus can be specified for use with either small or large core optical fibers. LumaCore products are terminated to optical fiber meeting the latest industry standards such as Telcordia GR-326-CORE.



Features and Benefits

Unique 1/8-turn retention feature allows the terminus to be installed and removed from a connector solution with a simple push and turn

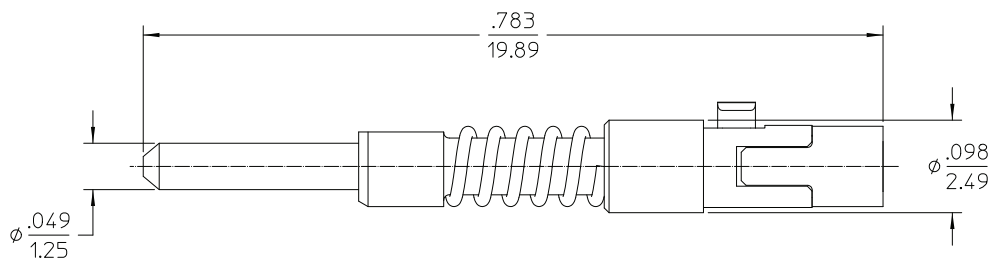
All retention features are integrated on-board the terminus assuring simplicity and reliability in final connector products

Available in a large array of connector configurations including circular MIL-DTL-38999, D-subminiature, backplane mount and custom applications

1.25mm precision Zirconia ceramic ferrule is available with a broad range of ferrule hole sizes from 80 to 650 microns

Suitable for singlemode and multimode applications
-PC, UPC and APC end face geometry capable and plastic optical fiber (POF)

Specifications



REFERENCE INFORMATION

Ferrule: Zirconia Ceramic

Body Materials: Copper Alloy

Plating: Gold/Nickel

Spring: Stainless Steel

OPTICAL PERFORMANCE

Parameter	SM UPC	APC SM	MM
Insertion Loss (db typ.)	0.25	0.35	0.20
Return Loss (db typ.)	50	60	25



Design Flexibility Sets Molex Apart

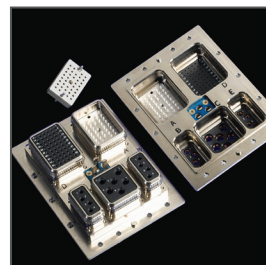
Molex can design new connector configurations or modify nearly any existing connector to become a high performance optical solution. Call us to find out about our latest developments or visit our website at www.molex.com/fiber. Molex continues to innovate to customer demand on a daily basis. Examples of our newest products include:

OPTICAL ARINC

Molex has designed and manufactured inserts with various terminations densities from 32 to 72 fibers for ARINC connectors. Features such as precision alignment pins and removable sleeve assemblies to simplify inspection and cleaning are enabling ARINC connectors to finally deliver high density and stable optical performance in harsh environments. The ARINC inserts are designed to mount in the ARINC frame cavity of your choice and are provided with the insert mounting hardware.

LumaCore™ Multi-Fiber Specialty Connectors

Optical ARINC



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