

FEATURES AND SPECIFICATIONS

Features and Benefits

- Precision alignment pins improve insertion loss performance
- Fanouts to simplex fiber connectors require no splicing resulting in cost reduction
- MTP to HBMT and BMTP cable assemblies provide a transition from the board to the backplane
- Color coded housings ensure singlemode and multimode assemblies are easily distinguished
- Push-pull mating of MTP* for quick connections
- Variety of MTP adapters facilitate multiple mounting options for flexible board and panel layouts

*MTP is a registered trademark of US Conec Ltd.

MTP/MPO connectorized ribbon fiber cable assemblies provide reliable high performance interconnects of up to 24 fibers in a small footprint. The MTP/MPO connectors utilize the precision molded NTT compatible ferrule which connects four to 24 fibers using bare ribbon or ruggedized ribbon cable. Alignment between mating ferrules is accomplished using two precision guide pins that are pre-installed into the designated male connector.

MTP/MPO assemblies utilize a push-pull connector housing for a quick and reliable connection. For optical device interconnections, MTP/MPO assemblies interface on the daughter card to Molex's HBMT and BMTP adapters on the backplane.

Applications

- Dense interconnect for datacommunication and telecommunication systems
- Chassis-to-chassis connections
- Miniature interconnection for optoelectronic modules

Reference Information

Connector Body Material: Polymer
Housing: UL V-0
MTP/MPO sold as terminations only



MTP* /MPO Connectors and Adapters



Multiple transitions between ribbon cable to individual fibers are available to meet a variety of fiber routing requirements. Fanouts to single fiber leads connectorized with Molex industry standard LC, MU, FC, SC and ST connectors are available to interconnect with the current installed base of transmitters, receivers and patch panels.

A singlemode low loss version of the MTP/MPO connector is achieved by using more precise MT 8-fiber ferrules and guide pins. The superior precision of the singlemode low loss MT ferrule yields comparable insertion loss values of the single fiber ceramic ferrules.

MTP/MPO connectors meet IEC 1754-7 and TIA/EIA 604-5 standards.

Mating of the MTP/MPO connectors can be achieved by using a variety of MTP/MPO adapters. For applications where EMI is a concern, Molex has developed a series of shuttered die cast adapters that are designed to shield and isolate EMI emissions.

ORDERING INFORMATION

MTP Connectors

Part No.	Body	Mode	Insertion Loss At Test	Ferrule Hole Size	Ferrule Port	APC	Cable Type	Boot	Mates With
86081-3030	Male, Black	Multimode	.5dB	50/125 μ m	4, 8,12 or 24		Bare Ribbon / Jacketed	Black	MTP / BMTP Adapters
86081-3020	Male, Beige	Multimode	.5dB	62.5/125 μ m	4, 8,12 or 24				
86081-5020	Male, Green	Singlemode	.75dB	9/125 μ m	4, 8,12 or 24	Yes			
86081-6020	Male, Yellow	Singlemode	.5dB	9/125 μ m	8	Yes			
86082-3030	Female, Black	Multimode	.5dB	50/125 μ m	4, 8,12 or 24				
86082-3020	Female, Beige	Multimode	.5dB	62.5/125 μ m	4, 8,12 or 24				
86082-5020	Female, Green	Singlemode	.75dB	9/125 μ m	4, 8,12 or 24	Yes			
86082-6020	Female, Yellow	Singlemode	.5dB	9/125 μ m	8	Yes			

MPO Connectors

Part No.	Body	Mode	Insertion Loss At Test	Ferrule Hole Size	Ferrule Port	APC	Cable Type	Boot	Mates With
86083-3093	Male, Black	Multimode	.5dB	50/125 μ m	4, 8,12 or 24		Jacketed	Standard, Black	MTP / BMTP Adapters
86083-3090	Male, Beige	Multimode	.5dB	62.5/125 μ m	4, 8,12 or 24				
86083-5090	Male, Green	Singlemode	.75dB	9/125 μ m	4, 8,12 or 24	Yes			
86083-6094	Male, Yellow	Singlemode	.5dB	9/125 μ m	8	Yes			
86084-3093	Female, Black	Multimode	.5dB	50/125 μ m	4, 8,12 or 24				
86084-3090	Female, Beige	Multimode	.5dB	62.5/125 μ m	4, 8,12 or 24				
86084-5090	Female, Green	Singlemode	.75dB	9/125 μ m	4, 8,12 or 24	Yes			
86084-6094	Female, Yellow	Singlemode	.5dB	9/125 μ m	8	Yes			
86083-3095	Male, Black	Multimode	.5dB	50/125 μ m	4, 8,12 or 24		Bare	Long, Black	MTP / BMTP Adapters
86083-3092	Male, Beige	Multimode	.5dB	62.5/125 μ m	4, 8,12 or 24				
86083-3096	Male, Green	Multimode	.75dB	9/125 μ m	4, 8,12 or 24	Yes			
86083-6099	Male, Yellow	Multimode	.5dB	9/125 μ m	8	Yes			
86084-3095	Female, Black	Multimode	.5dB	50/125 μ m	4, 8,12 or 24				
86084-3092	Female, Beige	Multimode	.5dB	62.5/125 μ m	4, 8,12 or 24				
86084-5096	Female, Green	Singlemode	.75dB	9/125 μ m	4, 8,12 or 24	Yes			
86084-6099	Female, Yellow	Singlemode	.5dB	9/125 μ m	8	Yes			
86083-3094	Male, Black	Multimode	.5dB	50/125 μ m	4, 8,12 or 24				
86083-3091	Male, Beige	Multimode	.5dB	62.5/125 μ m	4, 8,12 or 24				
86083-5002	Male, Green	Multimode	.75dB	9/125 μ m	4, 8,12 or 24	Yes			
86083-6098	Male, Yellow	Multimode	.5dB	9/125 μ m	8	Yes			
86084-3094	Female, Black	Multimode	.5dB	50/125 μ m	4, 8,12 or 24				
86084-3091	Female, Beige	Multimode	.5dB	62.5/125 μ m	4, 8,12 or 24				
86084-5097	Female, Green	Singlemode	.75dB	9/125 μ m	4, 8,12 or 24	Yes			
86084-6098	Female, Yellow	Singlemode	.5dB	9/125 μ m	8	Yes			

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MOLEX FIBER OPTICS DIVISION 5224 Katrine Avenue, Downers Grove, IL 60515 / Tel: 800-A1-FIBER or (630) 512-8787 Web: www.molex.com/fiber

MTP/MPO Adapters

Part No.	Body	Style	Mounting Style	Flange Style	Features	Shutter
86181-0000	Polymer Black	Simplex	Snap/Screw	Standard		
86181-0006		Simplex	Snap/Screw	Standard	Rotated	
86181-0007		Simplex	Snap	Small		
86181-0008		Quad	Screw			
86114-1100	Die Cast	Simplex	Screw	Standard		Yes
86114-1200	Die Cast	Simplex	Snap	Standard		Yes
86114-3200	Die Cast	Quad	Screw	Standard	45°	

PERFORMANCE AND SPECIFICATIONS

Characteristics	Units	Typical	Maximum At Test	Housing Color	Comments
Insertion Loss 4, 8 or 12: 9/125 Singlemode Fiber	-dB	.3	.75	Green	Angled Polish
62.5/125µm Multimode Fiber	-dB	.3	.75	Beige	Flat Polish
50/125µm Singlemode Fiber	-dB	.3	.75	Black	Flat Polish
Insertion Loss 8 Fiber Low Loss Ferrule 9/125 Singlemode Fiber	-dB	.15	.5	Yellow	.35dB is available with the use of premium fiber
Insertion Loss 24 Fiber Ferrule 9/125 Singlemode Fiber	-dB	.4	1.0	Green	Angled Polish
62.5/125µm Multimode Fiber	-dB	.4	1.0	Beige	Flat Polish
50/125µm Singlemode Fiber	-dB	.4	1.0	Black	Flat Polish
Return Loss: Singlemode	-dB	55	< 50		
Cable Assembly Length	M	1 to 10	2000		Greater than 100m will be spooled
Temperature Range	°C		+70		Connector Is Rated To 80°C / Fiber Is Rated To 70°C

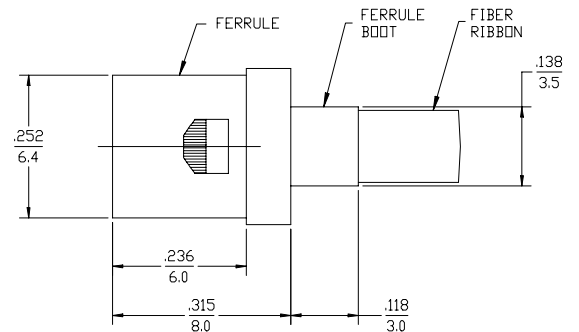
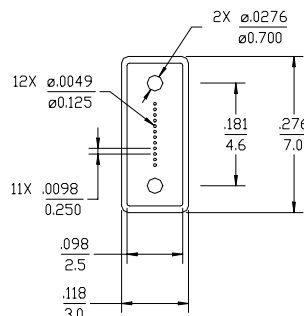
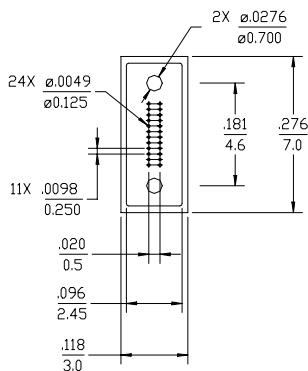
MT CONNECTOR

DRAWINGS (FOR REFERENCE ONLY)

24 FIBER

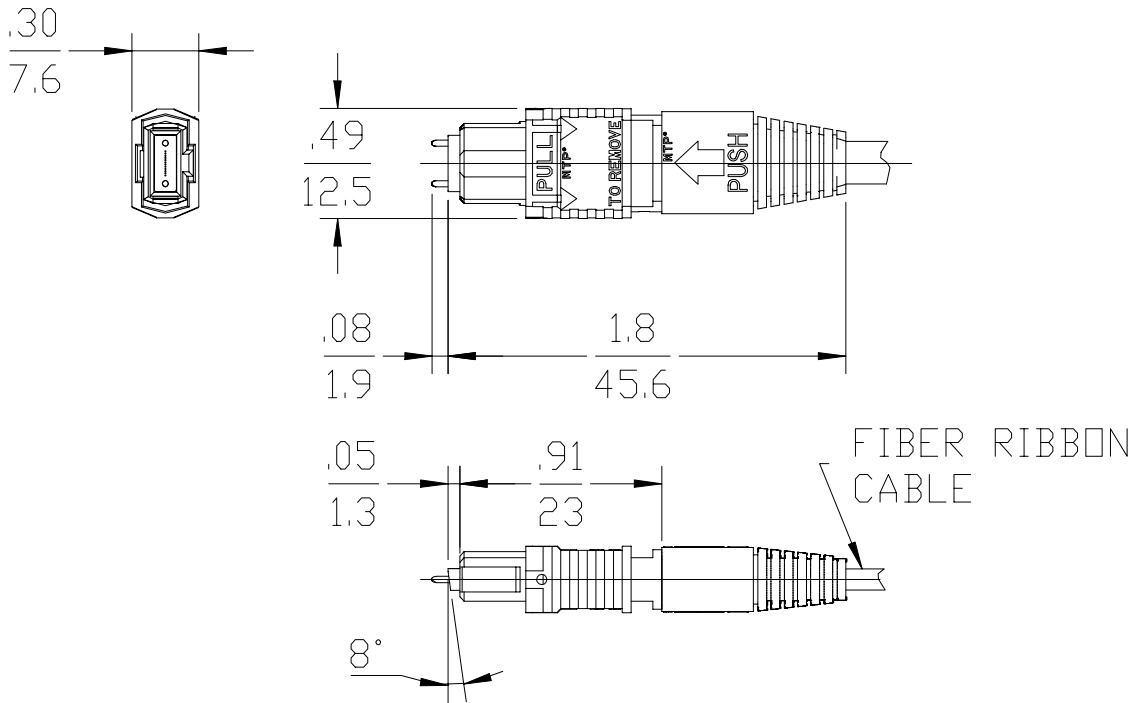
12 FIBER

MT FERRULE SIDE VIEW



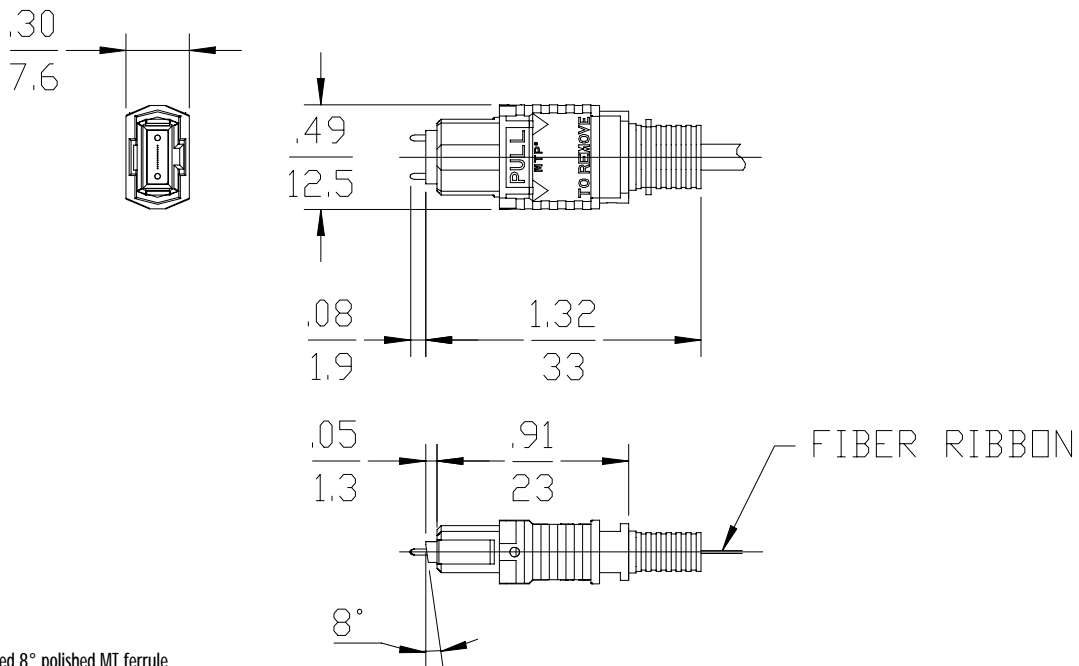
All Dimensions in INCHES
mm

MTP JACKETED CABLE



Note: Singlemode angled 8° polished MT ferrule
Multimode flat polished MT ferrule

MTP NO BOOT

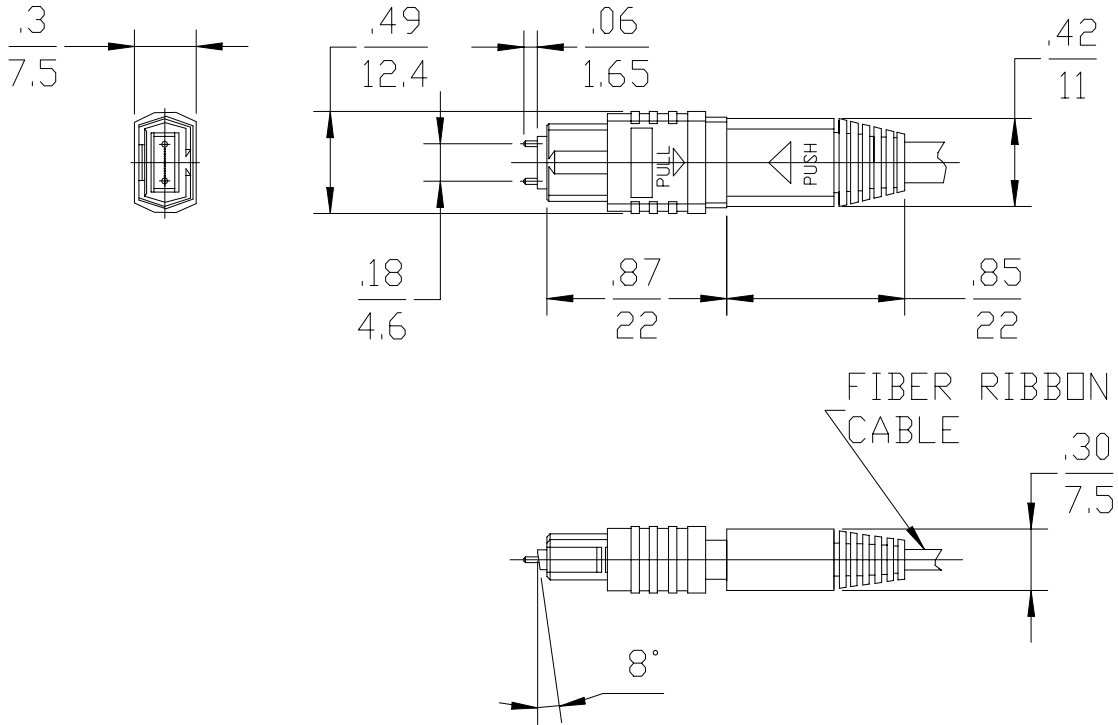


Note: Singlemode angled 8° polished MT ferrule
Multimode flat polished MT ferrule

All Dimensions in $\frac{\text{INCHES}}{\text{mm}}$

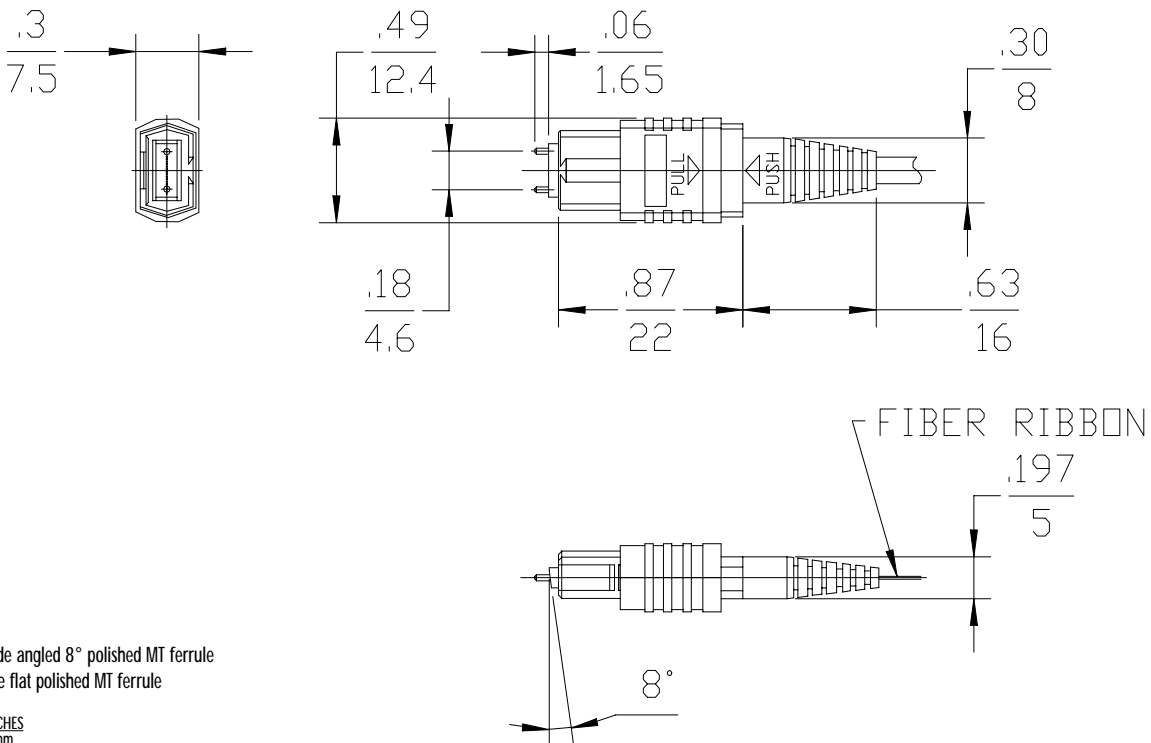
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MPO JACKETED CABLE



Note: Singlemode angled 8° polished MT ferrule
Multimode flat polished MT ferrule

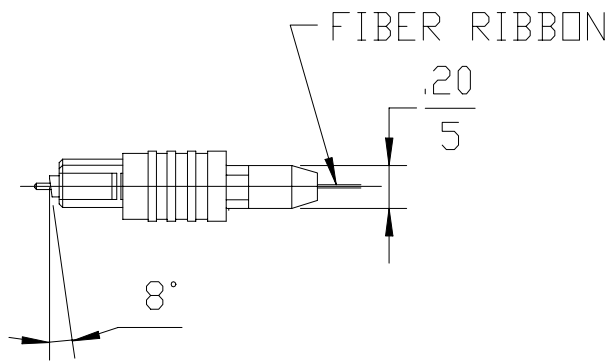
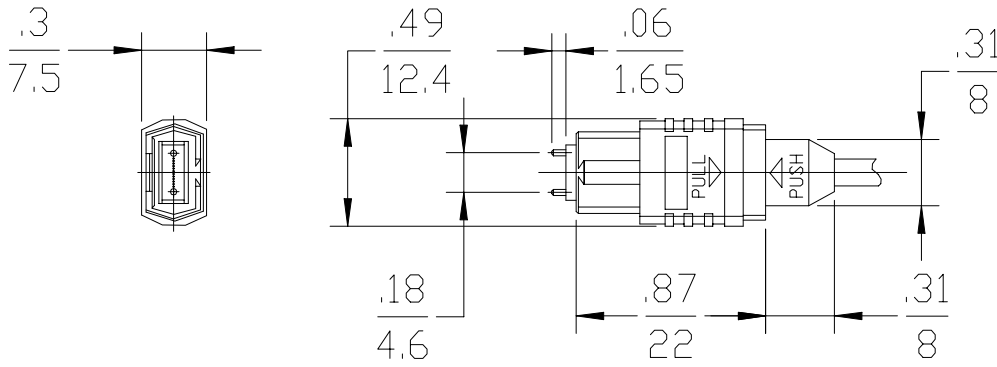
MPO BARE FIBER LONG BOOT



Note: Singlemode angled 8° polished MT ferrule
Multimode flat polished MT ferrule

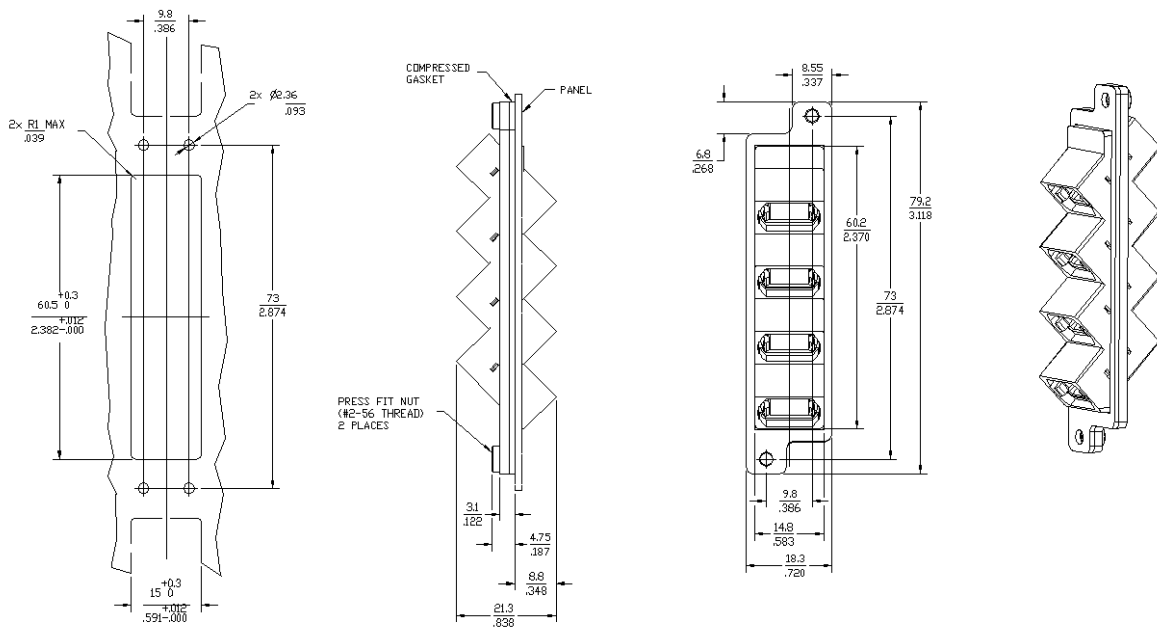
All Dimensions in ^{INCHES}
mm

MPO BARE FIBER SHORT BOOT



Note: Singlemode angled 8° polished MT ferrule
Multimode flat polished MT ferrule

MPO EMI QUAD 45° ADAPTER



All Dimensions in **INCHES**
mm

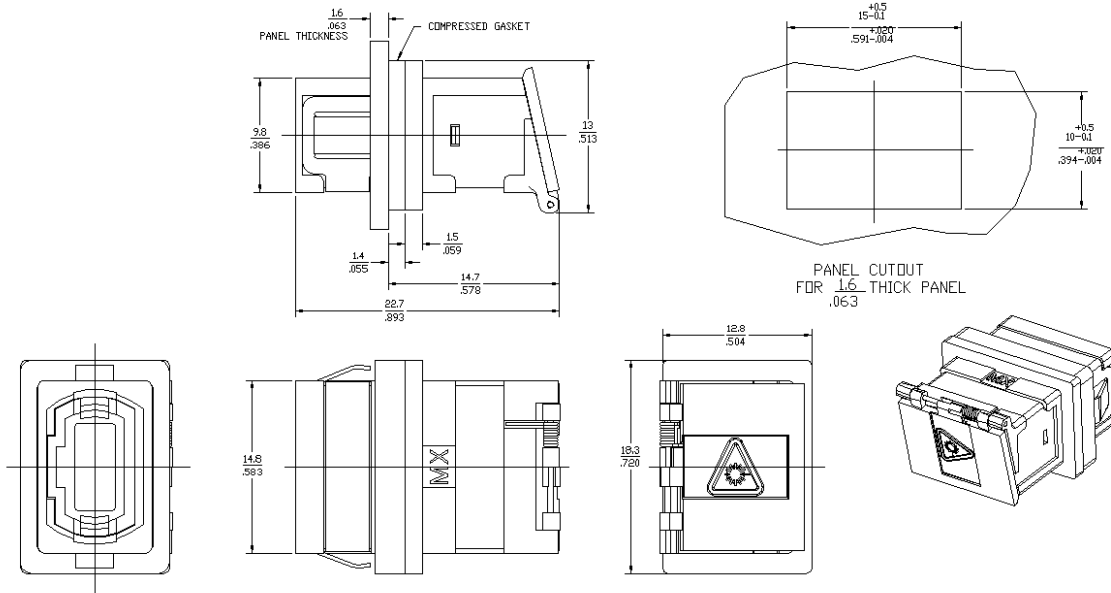
PANEL CUTOUT

NOTES:

1. PART IS SUPPLIED WITH PRESS FIT NUT (2-56 THREADS) AND SILICONE GASKET WITH Ag/AI FILLER (SHOWN COMPRESSED).
2. OUTER SHELL OF PART IS DIECAST

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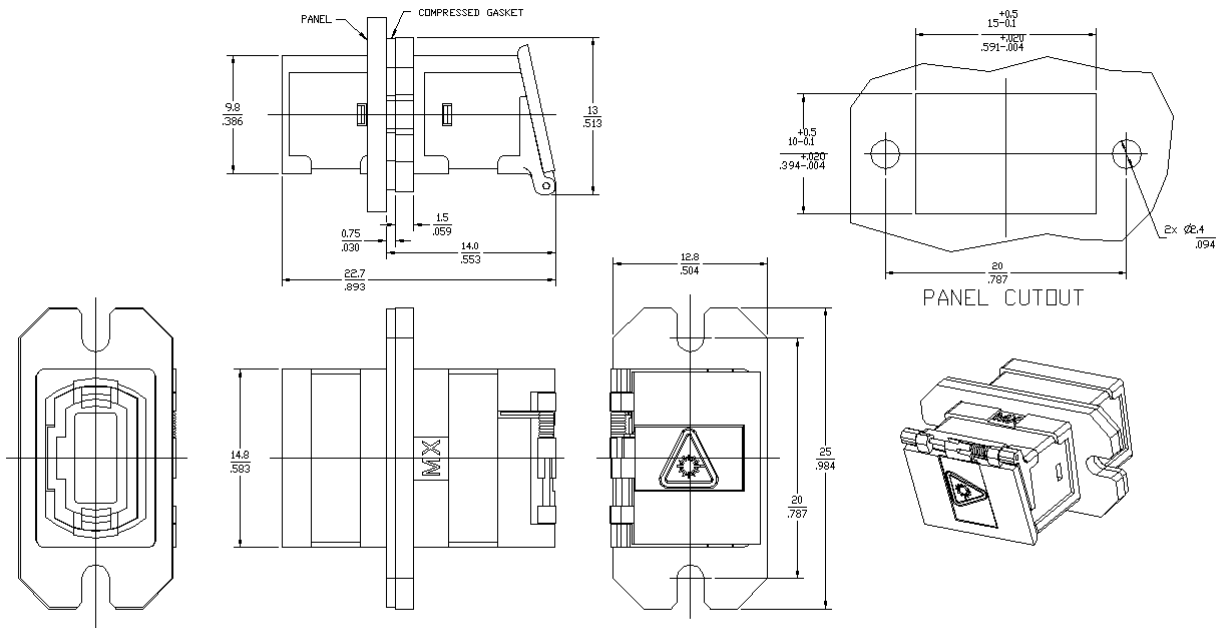
MPO EMI SNAP MOUNT



NOTES:

1. CONDUCTIVE FABRIC OVER FOAM GASKET (SHOWN COMPRESSED) IS SUPPLIED WITH THE PART.
2. OUTER SHELL OF PART IS DIECAST.

MPO EMI SCREW MOUNT

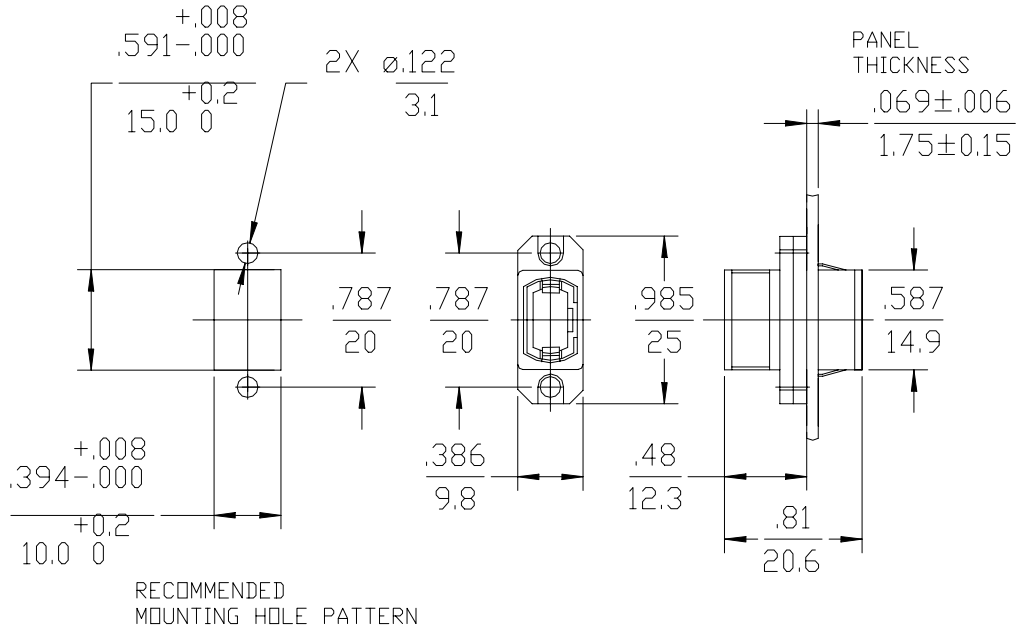


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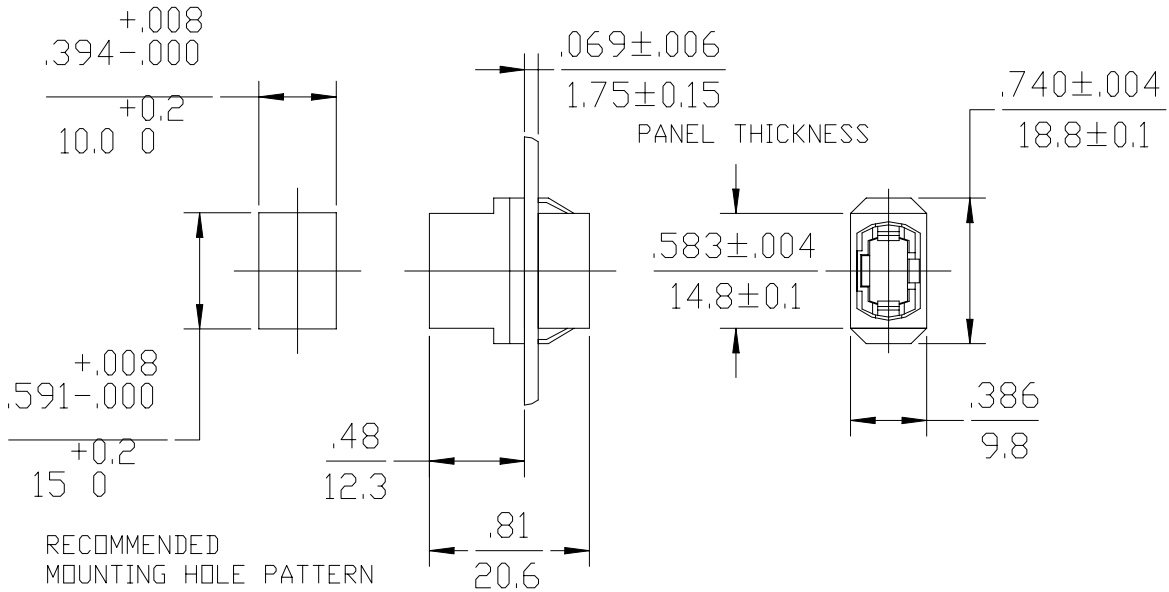
1. SILICONE GASKET WITH Ag/Al FILLER (SHOWN COMPRESSED) IS SUPPLIED WITH THE PART.
2. OUTER SHELL OF PART IS DIECAST.

All Dimensions in **INCHES**
mm

MTP ADAPTER

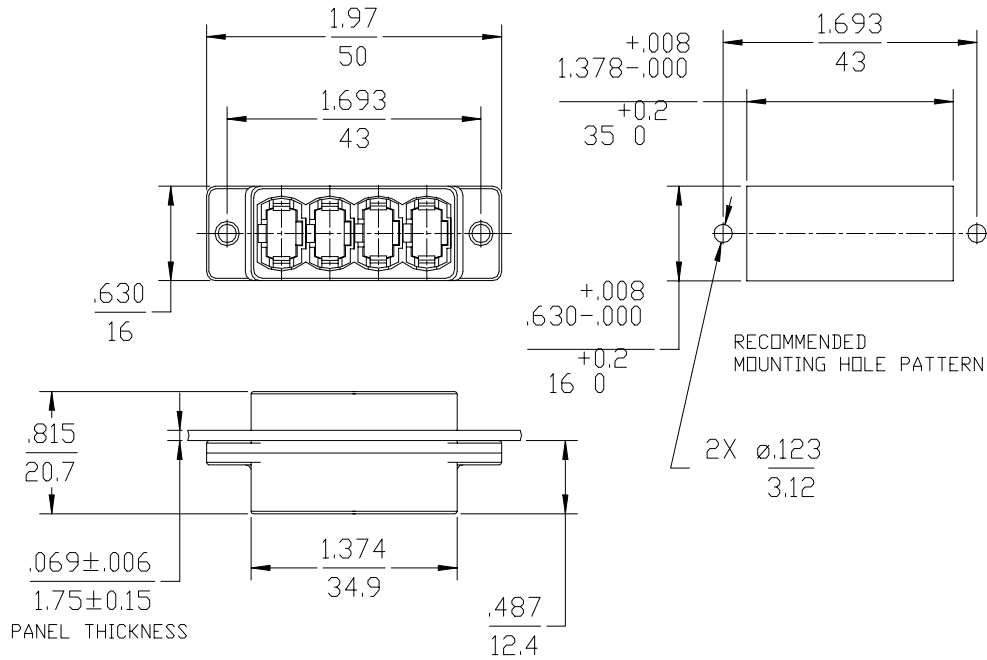


MTP ADAPTER REDUCED FLANGE



All Dimensions in INCHES
mm

MTP QUAD ADAPTER



All Dimensions in $\frac{\text{INCHES}}{\text{mm}}$