molex

Active Electrical Cable (AEC) OSFP to OSFP Straight Cable with Marvell Lynx800 Re-Timer ❯

AECs use re-timers to efficiently extend the reach of Copper cables. They deliver superior performance and improved design flexibility while simultaneously reducing costs.

PRODUCT FEATURE HIGHLIGHTS

Molex AEC with Marvell Lynx800 Re-Timer

• Eight-lane OSFP 112Gbps PAM-4 support

• IEEE compliant auto negotiation and link training

• Host and line interface support loopbacks and PRBS generator/ checker for diagnostic operations

• Performance monitoring features including signal-to-noise ratio (SNR), eye histogram and more

• Comprehensive test and debug capabilities

KEY ADVANTAGES

Achieve Next-Generation Digital Transmission Speeds
As digital transmission speeds continue to increase—from 56G PAM-4 to 112G PAM-4 to 224G PAM-4, the reach provided by traditional, passive, direct-attach cables (DAC) is insufficient. AECs bridge the gap between the place where retreating DACs end and where active optical cables (AOC) and optical modules begin.

Future-Proof Infrastructure with Active Components
Re-timers in the cable assemblies reset loss and timing planes, regenerating signals and removing noise to deliver superior signal integrity over lengths up to 5 meters. AECs reduce cable bundle size, bend space, bend radius and airflow impedance. They also offer an extended loss budget of up to 40 dB depending on the re-timer.

Maximize Design Flexibility Between the ASIC and I/O
Molex's AEC design allows for a wide variety of physical-layer (PHY)/re-timer integrated circuits to be used. This gives customers the freedom to select the re-timer that best fits their application's needs. Straight, Y and X/H AEC cable configurations support shared top-of-rack (TOR) installations and network-managed redundancy and security.

PRODUCT DRAWINGS
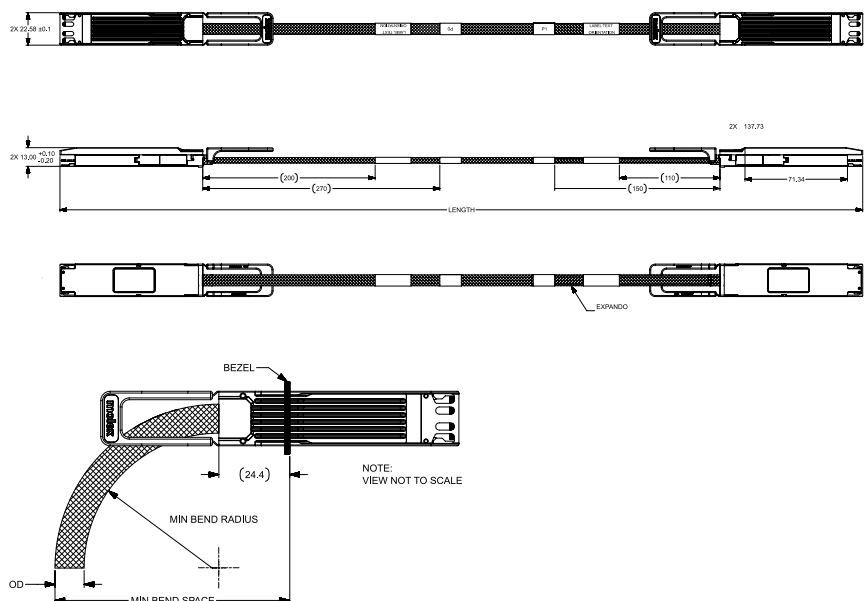
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MOLEX AEC SPECIFICATIONS

REFERENCE INFORMATION	
Module Form Factor	OSFP 800
RoHS Compliant	Yes
Low Smoke Zero Halogen Compliant	No
UL Compliance	E72548
Cable Flammability Rating	VW-1 per UL E61522, AWM Style 22058
OSFP MSA Compliance	MSA OSFP REV 5.0

PHYSICAL	
Cable Construction	Expando over discrete twinax
Operating Temperatures	0 to +55°C ambient (0 to +70°C case)
Storage Temperatures	-40 to +85°C

ELECTRICAL	
Pre-FEC BER	<1e-8
Post-FEC BER	<1e-15
Default Data Rate	800G: 112G PAM-4 (data rate = 106.25Gbps)
Data Rate Capabilities	800G: 112G PAM-4 (data rate = 106.25Gbps) 400G: 56G PAM-4 (data rate = 53.125Gbps) 200G: 25G NRZ (data rate = 25.78125Gbps)
Host Max I2C Interface	400kbps
Number of Data Lanes	8
Impedance	100 Ohms
EMI Shielded	Yes
Full/Half Active	Full
Time to CMIS Ready	100 milliseconds
Time to Link	15 seconds
Hot Swappable/Pluggable	Yes
Power Consumption per End	10.5W

AEC OPTIONS

Part Number	Length (m)	AWG	Estimated Weight (g)	Cable Outside Diameter (mm)	Bend Radius (mm)	Bend Space (mm)
2253612010	2.0	34	184	6.40	19.20	50.00
2253612011	3.0	34	239	6.40	19.20	50.00
2253612012	4.0	34	294	6.40	19.20	50.00
2253612013	3.0	32	296	7.70	23.10	55.20
2253612014	4.0	32	370	7.70	23.10	55.20
2253612015	5.0	32	444	7.70	23.10	55.20
2253612016	3.0	30	361	9.20	27.60	61.20
2253612017	4.0	30	469	9.20	27.60	61.20
2253612018	5.0	30	614	9.20	27.60	61.20
2253612019	6.0	30	722	10.90	32.70	68.00
2253612020	5.0	28	729	10.90	32.70	68.00
2253612021	6.0	28	860	10.90	32.70	68.00
2253612022	7.0	28	991	10.90	33.00	67.00

Details provided are for informational purposes only and subject to change. Contact us for more details.

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