molex

Active Electrical Cable (AEC) OSFP to OSFP Straight Cable with Broadcom BCM 87854 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

Broadcom 87854 Re-Timer

• Low-power SerDes supports 22 dB at both host-side and line-side interface

• Supports 8-lane OSFP 112G PAM-4

• Ultra-low latency (<25ns for re-timer)*

• Auto-negotiation and link training when paired with Broadcom ASIC

• Continuous auto-adaptive equalizers

• Line-side and host-side loopback functionality and security

*Reference information only. Pending verification.

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.
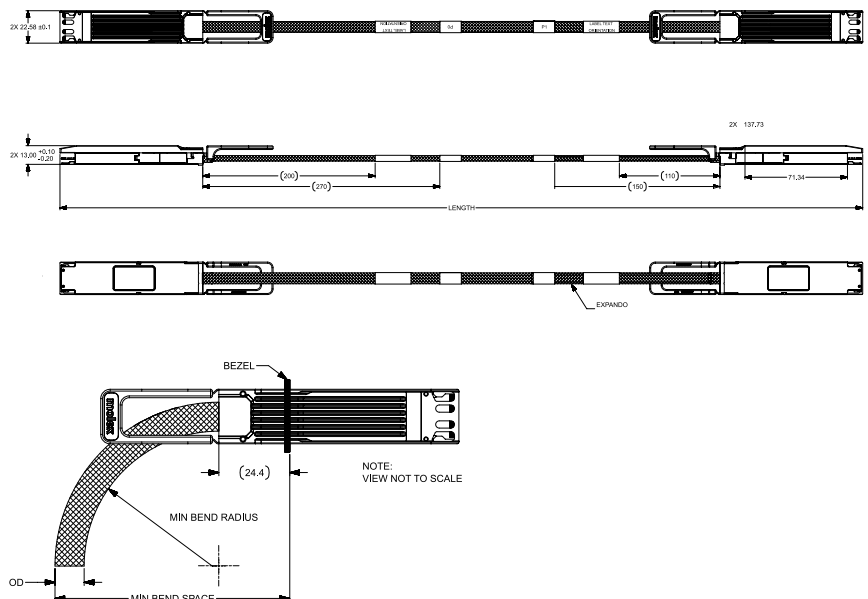
Future-Proof Infrastructure with Active Components

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

molex

Active Electrical Cable (AEC) OSFP to OSFP Straight Cable with Broadcom BCM 87854 Re-Timer ❯

MOLEX AEC SPECIFICATIONS

PHYSICAL	
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
Cable Construction	Expando over discrete twinax
OSFP MSA Compliance	MSA OSFP REV 5.0
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
CMIS Version Compliance	5.0
EMI Shielded	Yes
Full/Half Active	Full
Time to CMIS Ready	100 milliseconds
Time to Link	5 seconds
Hot Swappable/Pluggable	Yes
Power Consumption per End	7W

AEC OPTIONS

Part Number	Length (m)	AWG	Weight (g)	Cable Outside Diameter (mm)	Bend Radius (mm)	Bend Space (mm)
2253613010	1.0	34	129	6.40	19.20	50.00
2253613011	2.0	34	184	6.40	19.20	50.00
2253613012	3.0	34	239	6.40	19.20	50.00
2253613013	2.0	32	222	7.70	23.10	55.20
2253613014	3.0	32	296	7.70	23.10	55.20
2253613015	4.0	32	370	7.70	23.10	55.20
2253613016	3.0	30	398	9.20	27.60	61.20
2253613017	4.0	30	506	9.20	27.60	61.20
2253613018	5.0	30	614	9.20	27.60	61.20
2253613019	4.0	28	598	10.90	32.70	68.00
2253613020	5.0	28	729	10.90	32.70	68.00
2253613021	6.0	28	860	10.90	32.70	68.00

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

www.molex.com