

Active Electrical Cable (AEC) 224G OSFP Integrated Heat Sink (IHS) and Riding Heat Sink (RHS) Straight Cable with Marvell Leo Re-Timer >

These high-speed OSFP to OSFP 224G AECs are designed for next-generation, switch-to-switch connectivity. Optimized for compatibility with Marvell re-timers, these cables also support high-density, low-latency data center applications.

PRODUCT FEATURE HIGHLIGHTS

Molex AEC 224G OSFP IHS and RHS with Marvell Leo Re-Timer

- 40 dB line side and 25 dB host side
- Eight-lane OSFP 224G PAM-4 support
- IEEE-compliant auto-negotiation and link training
- Performance monitoring features including signal-to-noise ratio, eye histogram and more
- Comprehensive test and debug capabilities

KEY ADVANTAGES

Achieves High-Speed Connectivity

As digital transmission speeds continue to increase, the reach provided by traditional, passive, direct-attach cables (DACs) is insufficient. AECs enhance efficiency at 224G PAM-4 rates and higher, ensuring minimal signal degradation and making longer cable lengths possible. Their OSFP form factor also enables higher port density, supporting scalable and space-efficient system designs.

Enhances Power and Cost Efficiency

Consuming significantly less power when compared with optical transceivers, AECs reduce overall system power and cooling requirements. These cables provide a cost-effective solution for short-reach applications, such as rack-to-rack and intra-rack connections.

Improves Signal Integrity

The integrated signal conditioning of the Molex AEC ensures reliable high-speed performance. The hot-pluggable design allows for quick installation, upgrades and maintenance with minimal system disruption.



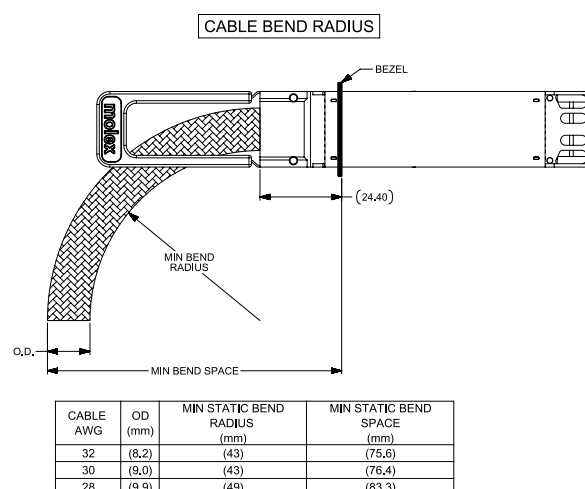
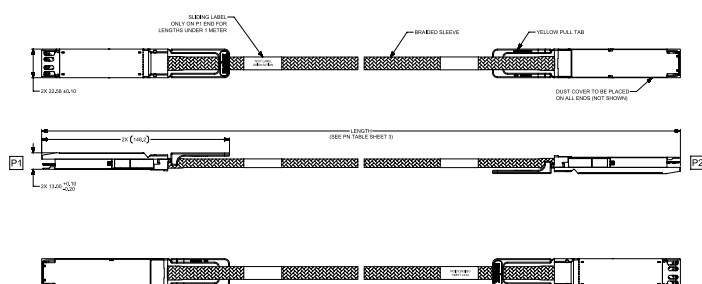
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MOLEX AEC SPECIFICATIONS

PHYSICAL	
Module Form Factor	OSFP
RoHS Compliant	Yes
Low-Smoke, Zero-Halogen Compliant	32 AWG: No 30 AWG: No 28 AWG: Yes 26 AWG: No
UL Compliance	E61522
Cable Flammability Rating	32 AWG: FT1/VW-1 30 AWG: FT1/VW-1 28 AWG: Horizontal Flame/FT2 26 AWG: To be determined (pending UL certification)
Cable Construction	Expando over discrete twinax
MSA Compliance	MSA OSFP Rev. 5.2
Operating Temperatures	0 to +45°C ambient (0 to +70°C case)
Storage Temperatures	-20 to +85°C

ELECTRICAL	
Pre-FEC BER	<1e-8
Post-FEC BER	<1e-15
Default Data Rate	1.6T: 224G PAM-4 (Data Rate = 212.25Gbps)
Data Rate Capabilities	1.6T: 224G PAM-4 (Data Rate = 212.25Gbps) 800G: 112G PAM-4 (Data Rate = 106.25Gbps)
Host Max I2C Interface	400kbps
Number of Data Lanes	8
Impedance	92 Ohms differential
CMIS Version Compliance	Supports all CMIS 5.0 versions
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	~24W

PRODUCT DRAWINGS



Active Electrical Cable (AEC) 224G OSFP Integrated Heat Sink (IHS) and Riding Heat Sink (RHS) Straight Cable with Marvell Leo Re-Timer ➤

AEC OPTIONS

Part Number	Length (m)	AWG	Heat Sink	Estimated Weight (g)	Cable Outside Diameter (mm)	Bend Radius (mm)	Bend Space (mm)
3025001051	1.0	32	IHS	148	8.20	43.00	75.60
3025001151	1.0	32	RHS	148	8.20	43.00	75.60
3025001052	1.5	32	IHS	185	8.20	43.00	75.60
3025001152	1.5	32	RHS	185	8.20	43.00	75.60
3025001053	2.0	32	IHS	222	8.20	43.00	75.60
3025001153	2.0	32	RHS	222	8.20	43.00	75.60
3025001054	2.5	32	IHS	259	8.20	43.00	75.60
3025001156	2.5	32	RHS	259	8.20	43.00	75.60
3025001057	2.0	30	IHS	290	9.00	43.00	76.40
3025001161	2.0	30	RHS	290	9.00	43.00	76.40
3025001058	2.5	30	IHS	344	9.00	43.00	76.40
3025001162	2.5	30	RHS	344	9.00	43.00	76.40
3025001059	3.0	30	IHS	398	9.00	43.00	76.40
3025001163	3.0	30	RHS	398	9.00	43.00	76.40
3025001069	2.5	28	IHS	402	9.90	49.00	83.30
3025001169	2.5	28	RHS	402	9.90	49.00	83.30
3025001070	3.0	28	IHS	467	9.90	49.00	83.30
3025001170	3.0	28	RHS	467	9.90	49.00	83.30
3025001071	3.5	28	IHS	533	9.90	49.00	83.30
3025001171	3.5	28	RHS	533	9.90	49.00	83.30

IHS = Integrated Heat Sink, air-cooled applications and RHS = Riding Heat Sink, air- and liquid-cooled applications

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

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