

OSFP (Octal Small Form Factor Pluggable) Copper Cable Assemblies

200G / 400G / 800G / 1.6T SOLUTIONS

Amphenol is leading the industry in OSFP cable development. Our Electronics Products 'Product of the Year' award-winning OSFP (Octal Small Form Factor Pluggable) cable assemblies are compatible with 25G/lane channel NRZ up to 224G/lane channel PAM4 signaling protocols that allow the cables to deliver aggregate bandwidths of 200G, 400G, 800G, and 1.6T per cable assembly. Available in both Passive and Active variants.

- Comprehensive system integrated interconnect design for copper or optical based cable solutions
- Addresses current and future market desired bandwidth port capability requirements
- Optimized heat dissipative and airflow features to maximize the heat dissipative properties of the system
- Data Rate: 25G NRZ / 56G PAM4 / 112G PAM4 / 224G PAM4
- Cable sizes: 25AWG – 32AWG
- 112G Passive cable lengths up to 2 meters
- 112G Active cable lengths up to 4 meters
- 224G Passive and Active copper cables

FEATURES

- Configurable & flexible
- Optimized PCB interface board with auto soldering process
- EEPROM in cable assembly
- Assembled with industry leading twin-axial SKEWCLEAR® 8-pair or 16-pair wire
- Integrated heat sink and air flow channels as part of module design
- 25AWG – 32AWG cable sizes
- RoHS2 compliant
- 112G Passive copper length to 2 meters and Active copper length to 4 meters
- 224G Passive and Active copper cables
- Custom solutions supported
- 15 watt single port dissipative heat capacity



TARGET MARKETS



BENEFITS

- 200G, 400G, 800G, and 1.6T aggregate bandwidth capacity, dual 8-pair or single 16-pair wire supported
- Exceeds 25G NRZ and 50G, 112G and 224G PAM4 performance and SI parameter in standard specification
- Programmable to customer requirements
- Great SI reliability and physical capabilities (softer and better bending performance than other cables)
- Fully compliant with optical module design, easier for customer system development
- Provides optimized cost, performance, cable bulk & routing solutions
- Environmentally friendly
- Meets industry standard signal performance requirements
- Custom solutions from adapter cables to loopback cables and beyond
- Enables use of copper as well as short and long reach optical applications

TECHNICAL INFORMATION

MATERIAL

- Nickel plated Zinc die cast shells & latching mechanism parts
- EM-888k laminated PCB with Gold finger and solder pads
- Dual 8 differential pair or single 16 differential pair wire with EMI shielding braid and LSZH or PVC jacketing. Flex Sleeves for 112G and 224G bundles
- Thermoplastic cable pull tab

ELECTRICAL PERFORMANCE

- Differential Impedance: $100\ \Omega \pm 10\ \Omega$ (up to 112G) , $92\ \Omega$ (224G)
- SI performance 25G NRZ / 50G PAM4 / 112G PAM4, 224G PAM4, InfiniBand™, and OIF specifications (per MSA agreement)

MECHANICAL PERFORMANCE

- Durability:
 - 50 cycles (up to 112G)
 - 100 cycles (224G)
- Mating Force: 40 N max. (IHS), 55 N max. (RHS)
- Modular Retention: 25 N min. (up to 112G), 125 N min. (224G)
- Cable Flex: Per SFF 8417 and EIA 364-41

ENVIRONMENTAL

- Thermal Shock, up to 112G: EIA 364-32, Condition 1, 25 cycles, -55 °C to +85 °C
- Thermal Shock, 224G: EIA 364-32, 100 cycles, -20 °C to +75 °C
- Service life to exceed 5 years at 65 °C

APPROVALS AND CERTIFICATIONS

- RoHS 2 compliant

SPECIFICATIONS

- Refer to the latest revision specification of the OSFP octal small form factor pluggable module
- Applicable IEEE specifications
 - IEEE802.3by
 - IEEE802.3bj
 - IEEE802.3cd
 - IEEE802.3ck
 - IEEE802.3dj
- The InfiniBand™ architecture specification and annexes

PACKAGING

- Individually packed in anti-static bags
- Cable ends packaged with dust covers

TARGET MARKETS/APPLICATIONS



Low Latency Communications Systems
Network Interface Card (NICs)
Routers
Switches



Data Center Networking
External Storage Systems
High Performance Computing (HPC)
Networked Storage Systems
Server

PART NUMBERS

Find part number details using the search box on www.amphenol-cs.com

Data Rate	AWG	Part Number	Passive or Active	Heat Sink
28G / Lane	30	NDVVJF-0001	Passive	IHS
	32	NDVVJR-0001		
56G / Lane	25	NDVYX-0001		
	28	NDVYG-0001		
	30	NDVYF-0001		
	32	NDVYR-0001		
112G / Lane	25	NJMMEN-0001	Linear Active	IHS
	32	NJMMEK-0001		
	30	NJMMLR-0001		
	32	NJMMLK-0001		
224G / Lane	26	NJMMRU-0001	Passive	IHS
	30	NJMMRD-0001		RHS
	30	NNGGEE-0001		
	26	NNDDHM-0401	Linear Active	IHS
	26	NNDDHM-0501		
	30	NNDDHE-0401		
	30	NNDDHE-0501		RHS
	26	NNGGHM-0401		
	26	NNGGHM-0501		
	30	NNGGHE-0401		
	30	NNGGHE-0501		

Note: For simplicity, all PNs above are 1.0M. Longer and shorter lengths are available.

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