



TECHNOLOGIE OPTIC.CA INC.

25 Gigabit SFP28 Passive Direct-Attach Copper Cable

AVC761-11100S · 25GBASE-CR · 1m · SFP28-to-SFP28 · 30 AWG twinax · Optic.ca S28-CU1M-NT-OC

The Optic.ca AVC761-11100S is a 25 Gigabit Ethernet SFP28 passive direct-attach copper (DAC) cable assembly for short-reach, high-density interconnect within a rack. It carries a single 25.78 Gb/s channel over a 1-metre, 30 AWG twinaxial cable with 100 Ω differential impedance and SFP28 connectors at both ends, built to align with the applicable SFP28 SFF multi-source agreements. As a passive assembly it contains no active signal-conditioning or optical components, providing the lowest-latency, lowest-power 25G connection for top-of-rack switch-to-server and switch-to-switch links. Each assembly is individually serialized, factory-coded for host-platform compatibility, and validated prior to shipment, and is backed by the Optic.ca lifetime warranty.

Key Features

- Compliant with the SFP28 SFF-8402 and SFF-8432 specifications; supports IEEE 802.3by 25GBASE-CR
- Single 25.78 Gb/s channel; SFP28 connectors at both ends
- 1-metre, 30 AWG twinaxial copper cable; 100 Ω differential impedance
- AC-coupled passive construction — no active or optical components in the signal path
- Optimized for signal integrity with low insertion loss
- All-metal connector housings for superior EMI shielding
- Factory-coded EEPROM for host-platform compatibility
- Commercial operating temperature range: -5 °C to +70 °C
- TAA compliant (Country of Origin: Taiwan); RoHS and REACH compliant
- Certified compatible with NETGEAR® switching platforms

Target Applications

- 25 Gigabit Ethernet top-of-rack interconnect
- Switch-to-server and switch-to-switch links within a rack
- Storage-area networks and high-density data-center fabrics
- Cost- and power-sensitive short-reach 25G aggregation

Ordering Information

Part Number	Description
AVC761-11100S	25GBASE-CR SFP28 passive DAC, 1 m, 30 AWG, 100 Ω twinax, SFP28-to-SFP28; NETGEAR® Certified Compatible

Standards Compliance

The AVC761-11100S is designed and manufactured to comply with the applicable standards listed below. These statements indicate conformance to the referenced specifications; they do not constitute third-party certification, agency listing, registration, or regulatory approval unless explicitly stated otherwise.

Standard / Program	Detail
Interface & MSA	

Standard / Program	Detail
SFP28 SFF-8402	SFP28 form factor and high-speed interface
SFP28 SFF-8432	SFP28 mechanical and connector specification
IEEE 802.3by	25GBASE-CR copper PMD
High-speed electrical	AC-coupled, 100 Ω differential signal paths
Environmental & Trade	
EU RoHS (2011/65/EU, incl. 2015/863)	Compliant
REACH (EC 1907/2006)	Compliant
Trade Agreements Act (TAA)	Compliant — Country of Origin: Taiwan

Note: EMC and product safety for a cable assembly are determined at the host-equipment level. The assembly is designed to conform to the listed limits and requirements when installed in compliant host equipment.

NETGEAR® Certified Compatible — validated for interoperability with NETGEAR switching platforms. NETGEAR® is a registered trademark of NETGEAR, Inc. This Technologie Optic.ca Inc. product is certified compatible under NETGEAR's certification program; it is not a NETGEAR-branded product.

General Specifications

Parameter	Value
Number of lanes	1 (Tx and Rx)
Channel data rate	25.78125 Gb/s
Operating case temperature	−5 °C to +70 °C
Storage temperature	−40 °C to +85 °C
Supply voltage (management interface)	3.3 V nominal
Host electrical interface	SFP28 20-pin edge connector
Management interface	2-wire serial (I ² C)

High-Speed Electrical Characteristics

Parameter	Symbol	Min.	Max.	Units	Conditions
Differential impedance	R _n (p-p)	90	110	Ω	—
Insertion loss	SDD21	—	22.48	dB	at 12.89 GHz
Common-mode return loss	SCC11	2	—	dB	0.2–19 GHz
Channel operating margin	COM	3	—	dB	—

Differential return loss (SDD11, SDD22) conforms to the applicable IEEE 802.3 return-loss limits over 0.05–19 GHz.

Cable Construction

Parameter	Value
Cable type	Passive twinaxial copper
Conductor gauge	30 AWG
Differential impedance	100 Ω nominal (90–110 Ω)
Cable length	1 m
Connectors	SFP28 at both ends

Parameter	Value
Signal coupling	AC-coupled
Shielding	All-metal connector housings for EMI suppression

Pin Assignment — SFP28 Connector

PIN	Symbol	Description
1	VeeT	Transmitter ground (common with receiver ground)
2	TX_Fault	Module transmitter fault
3	TX_Disable	Transmitter disable
4	SDA	2-wire serial interface data line
5	SCL	2-wire serial interface clock
6	MOD_ABS	Module absent; grounded within the module
7	RS0	No connection required
8	RX_LOS	Receiver loss-of-signal indication; logic 0 = normal operation
9	RS1	No connection required
10	VeeR	Receiver ground
11	VeeR	Receiver ground
12	RD-	Receiver inverted data output (AC-coupled)
13	RD+	Receiver non-inverted data output (AC-coupled)
14	VeeR	Receiver ground
15	VccR	Receiver 3.3 V supply
16	VccT	Transmitter 3.3 V supply
17	VeeT	Transmitter ground
18	TD+	Transmitter non-inverted data input (AC-coupled)
19	TD-	Transmitter inverted data input (AC-coupled)
20	VeeT	Transmitter ground

Handling

- Hold the connector by its sides when inserting it into the switch port.
- Do not handle the assembly by the cable.
- Do not over-bend the cable behind the connector.
- Do not twist or kink the cable.
- Do not flex the cable up and down behind the connector.

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