

Q400G-DAC

QSFP-DD 400G Copper Twinax cable Passive 400Gbase-CR8 DAC

1. Product overview

GLOBALfiber Q400G-DAC is a passive direct attach copper cable assembly for short-distance host interconnection.

2. Key features

QSFP-DD to QSFP-DD; 50G PAM4 per electrical channel; shielded twinax.

3. Applications

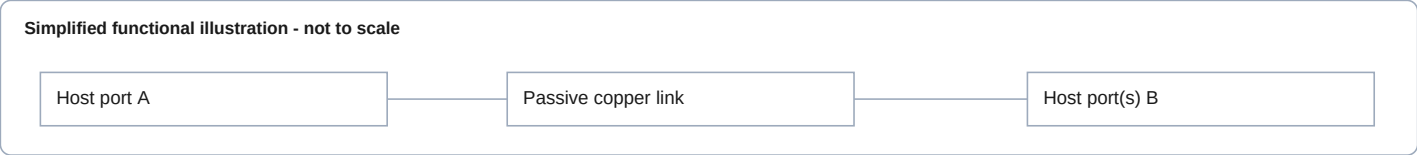
Data center networking, servers, storage, HPC, switches and routers.

4. Technical data

Parameter	Specification
Cable impedance	100 +10/-5 ohm; TDR rise time 30 ps, 20-80%, at SMA
Paddle-card impedance	100 +/-10 ohm
Cable termination impedance	100 +10/-15 ohm
Differential return loss	$\geq 16.5 - 2 \cdot \sqrt{f}$ dB for $0.05 \leq f < 4.1$; $\geq 10.66 - 14 \cdot \log_{10}(f/5.5)$ dB for $4.1 \leq f \leq 19$
Differential-to-common return loss	$\geq 22 - (20/25.78) \cdot f$ dB for $0.01 \leq f < 12.89$; $\geq 15 - (6/25.78) \cdot f$ dB for $12.89 \leq f \leq 19$
Common-mode return loss	≥ 2 dB for $0.2 \leq f \leq 19$
Differential insertion loss	-17.16 dB minimum at 13.28 GHz; TP _a to TP _b including fixture
Conversion loss minus insertion loss	≥ 10 dB for $0.01 \leq f \leq 12.89$; $\geq 27 - (29/22) \cdot f$ dB above 12.89 GHz; remaining frequency bound is cropped in source
Integrated crosstalk noise (ICN)	$a = IL$ at 13.28 GHz. $3 \leq a \leq 7.65$: 9 mV max; $7.65 \leq a \leq 26$: $(12.75 - 0.49 \cdot a)$ mV max
Test frequency	10 MHz-26.5 GHz, except insertion-loss test noted 10 MHz-19 GHz; f in equations is GHz

5. Recommended operating conditions

Parameter	Specification
Operating case temperature	0 to +70°C (source features)



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6. Optical characteristics

Not applicable. This is a passive copper cable; optical wavelength, launch power and receiver sensitivity do not apply.

7. Digital diagnostics and management

I2C EEPROM communication; SFF-8636 management.

8. Safety and regulatory

QSFP-DD MSA revision 3.4; SFF-8679; SFF-8636; IEEE 802.3bj/by/cd; RoHS. Use ESD-safe handling and observe the stated cable bend limits.

9. Ordering information

Parameter	Specification
GLOBALfiber product number	Q400G-DAC
Product description	QSFP-DD 400G Copper Twinax cable Passive 400Gbase-CR8 DAC
Selectable lengths	0,5 m, 1 m, 2 m, 3 m
Available coding	Arista, Cisco, Custom, Dell, Extreme, Generic, Huawei, Juniper, NVIDIA-Mellanox(ETH)

Confirm equipment model, port mode and software version when ordering. Coding availability does not guarantee support for every platform or mode.

Cable variants documented in the technical source:

Parameter	Specification
1m	Data Rate: Up to 400G; Wire Gauge: AWG30; Connector Type: Passive Copper; Temp. Range: 0-70°C; Cable Jacket: PVC
2m, 3m	Data Rate: Up to 400G; Wire Gauge: AWG28; Connector Type: Passive Copper; Temp. Range: 0-70°C; Cable Jacket: PVC