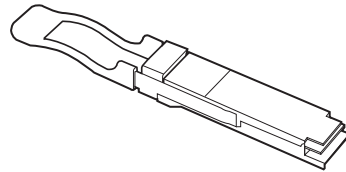


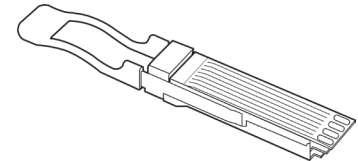
# 400G Transceiver Cheat Sheet

400G offers a welcome upgrade to relieve network bottlenecks for large-scale networks. ProLabs 100G and 400G transceivers and cabling offer solutions to practical network upgrade challenges.



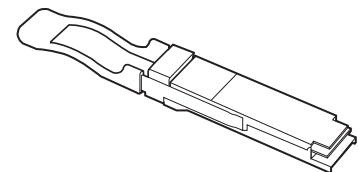
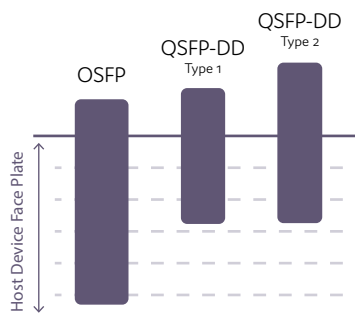
## QSFP-DD

The QSFP56-DD, or QSFP-DD, form factor is the most widely adopted form factor for 400G connections. The QSFP-DD form factor offers the benefits of density and relative lower power consumption over other form factors.



## OSFP

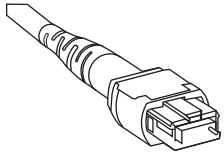
The Octal Small Form-Factor Pluggable, or OSFP, form factor is an alternative option used by a few switch platforms. The OSFP form factor is designed with heat dissipation features to account for higher power consumption.



## QSFP28-DD 2x100G

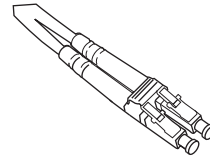
QSFP28-DD 2x100G transceivers offers increased switch port density and offers backwards compatibility with legacy 100G NRZ transceivers.

## Connectors



### MPO 16/12

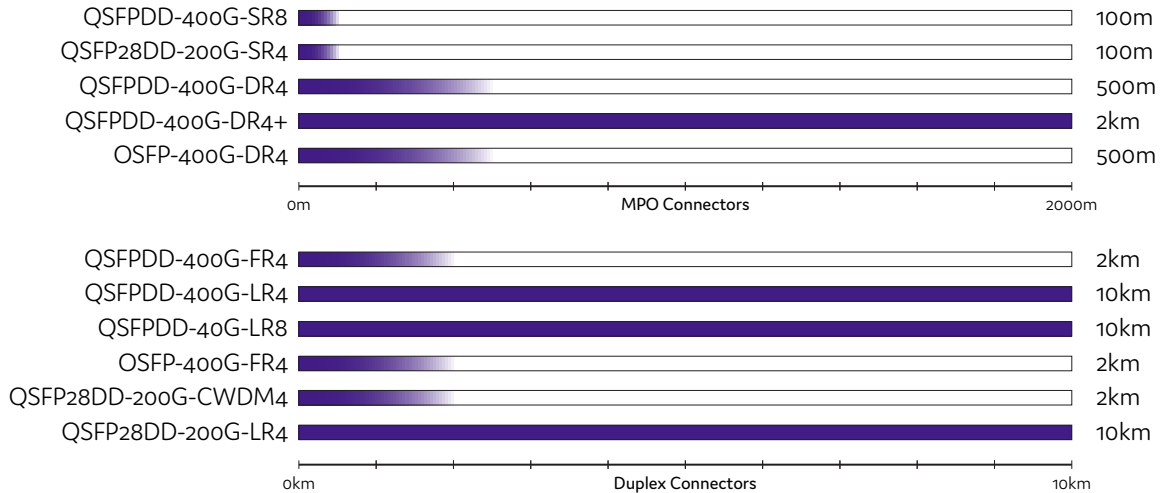
Many individual fiber strands, for short reach interconnects.



### Duplex LC + CS

A fiber for each direction of transmission - in one connector.

## Device Types and Reach



## 400G Transceivers

	Type	Media	Connector	Max Distance	Optical Signaling	Electrical Signaling
QSFP-DD	SR8	MMF	MPO-16	100M	8x50G PAM-4	8x50G PAM-4
	DR4	SMF	MPO-12	500M	4x100G PAM-4	8x50G PAM-4
	DR4+	SMF	MPO-12	2KM	4x100G PAM-4	8x50G PAM-4
	FR4	SMF	Duplex LC	2KM	4x100G PAM-4 CWDM	8x50G PAM-4
	LR4	SMF	Duplex LC	10KM	4x100G PAM-4 CWDM	8x50G PAM-4
	LR8	SMF	Duplex LC	10KM	8x50G PAM-4	8x50G PAM-4
OSFP	DR4	SMF	MPO-12	500M	4x100G PAM-4	8x50G PAM-4
	FR4	SMF	Duplex LC	2KM	4x100G PAM-4 CWDM	8x50G PAM-4

## QSFP28-DD-2x100G

Type	Media	Connector	Max Distance	Optical Signaling	Electrical Signaling
2x LR4	SMF	Duplex CS	10KM	8x25G NRZ LAN-WDM	8x25G NRZ
2x CWDM4	SMF	Duplex CS	2KM	8x25G NRZ CWDM	8x25G NRZ
2xSR4	MMF	MPO-24	100M	8x25G NRZ Parallel	8x25G NRZ

## 400G Cabling

Type	Media	Connector	Lengths
DAC	Twinax	QSFP-DD to QSFP-DD	1M, 2M, 3M
DAC	Twinax	QSFP-DD to 4x QSFP28	1M, 2M, 3M
AOC	OM4	QSFP-DD to QSFP-DD	Up to 70M

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