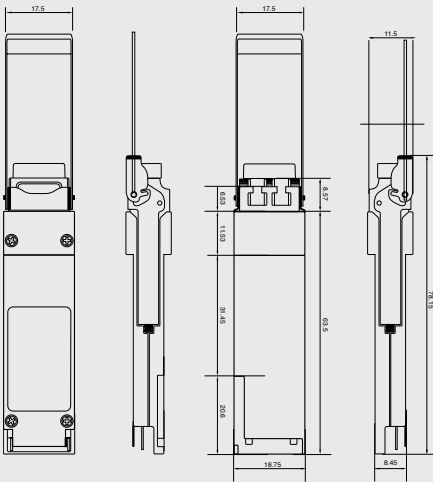




Optical QSFP+ 40G

Overview

Integra Optics' QSFP+ 40G transceivers are designed in accordance to industry standards and are available in a variety of power budgets and data rate options. Integra QSFP+ 40G transceivers are coded to be 100% OEM compatible and are more than capable of significantly growing network capacity to levels far beyond that of previous generation optical transceivers



Features

- ➔ Operating Data Rate of 41.25Gbps
- ➔ Distance Range Up to 40km
- ➔ MMF MPO or SMF LC Connector Interface
- ➔ Commercial Temperature Ranges
- ➔ Digital Diagnostics Monitoring Support
- ➔ Quad Lane CWDM Operation
- ➔ QSFP+ MSA Compliant

Applications

- ➔ 40GBase-SRBD, 40Gbase-SR4, 40GBase-eSR4, 40GBase-IR4, 40GBase-LR4, 40GBase-LR4-PSM, 40GBase-LR4-20km, 40GBase-ER4
- ➔ Metro-Ethernet, Data Center and Transport Networks
- ➔ Other Optical Links

Product Specifications

Integra Part Number	Wavelegnth(nm)	Distance (km)	Budget (dB)	TX (Min/Max)	RX (Min/Max)	Fiber Type	Description
QSFP-SRBD-40GD	850	0.1/0.15	3	-4/0.5	-7/0.5	OM3/OM4 LC/UPC	QSFP+ 40GBase-SRBD
QSFP-SR4-40GD	850	.1/1.15	1.9	-7.6/2.4	-9.5 / 2.4	OM3/OM4 MPO	QSFP+ 40GBase-SR4
QSFP-eSR4-40GD	850	.3/4	2.6	-7.3/2.4	-9.9/2.4	OM3/OM4 MPO	QSFP+ 40GBase-eSR4
QSFP-IR4-40GD	CWDM4	2	4.5	-7/2.3	-11.5 / 2.3	SMF LC/UPC	QSFP+ 40GBase-IR4
QSFP-LR4-10-40GD	1310	10	4.5	-7/2.3	-11.5/2.3	SMF LC/UPC	QSFP+ 40GBase-LR4
QSFP-LR4-P-40GD	1310	10	4.4	-8.2/0.5	-12.6/0.5	SMF MPO	QSFP+ 40GBase-LR4 PSM
QSFP-LR4-20-40GD	1310	20	9	-3.5/2.3	-12.5/2.3	SMF LC/UPC	QSFP+ 40GBase-LR4 20km
QSFP-ER4-40-40GD	1310	40	18.5	-2.7/4.5	-21.2/-4.5	SMF LC/UPC	QSFP+ 40GBase-ER4

Did You Know?

You can ensure coding accuracy and eliminate time spent finding replacement optics when you choose Integra transceivers. Our Smart Coder allows technicians to reconfigure our transceivers for specific hardware right in the field.

QSFP-SRBD-40GD

Detailed Specifications

Parameter	Minimum	Typical	Maximum	Unit
Storage Temperature	-40	-	85	°C
Operating Case Temperature - C-Temp	0	-	70	°C
Power Dissipation	-	-	3.5	W
Power Supply Voltage	3.135	3.3	3.465	V
Distance OM3 MMF	0.5	-	100	m
Distance OM4 MMF	0.5	-	150	m

Transmitter

Parameter	Minimum	Typical	Maximum	Unit
Per Lane Center Wavelength (λ_{C0})	832	850	868	nm
Per Lane Center Wavelength (λ_{C1})	882	900	918	nm
RMA Spectral Width	-	0.5	0.65	nm
Aggregate Bit Rate	-	40	-	Gbps
Data Rate Per Lane	-	10.3125	11.2	Gbps
Average Output Power Per Lane	-4	-2.5	0.5	dBm
Extinction Ratio	3.5	-	-	dB
Optical Return Loss Tolerance	-	-	12	dB

Receiver

Parameter	Minimum	Typical	Maximum	Unit
Per Lane Center Wavelength	840	850	860	nm
average power per lane	-7	-	0.5	dBm

QSFP-SR4-40GD

Detailed Specifications

Parameter	Minimum	Typical	Maximum	Unit
Storage Temperature	-40	-	85	°C
Operating Case Temperature - C-Temp	0	-	70	°C
Power Dissipation	-	-	1.5	W
Power Supply Voltage	3.135	3.3	3.465	V
Distance OM3 MMF	0.5	-	100	m
Distance OM4 MMF	0.5	-	150	m

Transmitter

Parameter	Minimum	Typical	Maximum	Unit
Per Lane Center Wavelength (λC)	840	850	860	nm
RMA Spectral Width	-	-	0.65	nm
Aggregate Bit Rate	-	40	-	Gbps
Data Rate Per Lane	-	10.3125	-	Gbps
Average Output Power Per Lane	-7.6	-	2.4	dBm
Extinction Ratio	3	-	-	dB
Optical Return Loss Tolerance	-	-	12	dB

Receiver

Parameter	Minimum	Typical	Maximum	Unit
Per Lane Center Wavelength	840	850	860	nm
Average Power Per Lane	-9.5	-	2.5	dBm
Damage Threshold	3.4	-	-	dB

QSFP-eSR4-40GD

Detailed Specifications

Parameter	Minimum	Typical	Maximum	Unit
Storage Temperature	-40	-	85	°C
Operating Case Temperature - C-Temp	0	-	70	°C
Power Dissipation	-	-	1.5	W
Power Supply Voltage	3.135	3.3	3.465	V
Distance OM3 MMF	0.5	-	300	m
Distance OM4 MMF	0.5	-	400	m

Transmitter

Parameter	Minimum	Typical	Maximum	Unit
Per Lane Center Wavelength (λC)	840	850	860	nm
RMA Spectral Width	-	-	0.65	nm
Aggregate Bit Rate	-	40	-	Gbps
Data Rate Per Lane	-	10.3125	-	Gbps
Average Output Power Per Lane	-7.3	-	2.4	dBm
Extinction Ratio	3	-	-	dB
Optical Return Loss Tolerance	-	-	12	dB

Receiver

Parameter	Minimum	Typical	Maximum	Unit
Per Lane Center Wavelength	840	850	860	nm
average power per lane	-9.9	-	2.4	dBm
Damage Threshold	3.4	-	-	dB

QSFP-IR4-40GD

Detailed Specifications

Parameter	Minimum	Typical	Maximum	Unit
Storage Temperature	-40	-	85	°C
Operating Case Temperature - C-Temp	0	-	70	°C
Power Dissipation	-	-	3.5	W
Power Supply Voltage	3.135	3.3	3.465	V
Distance SMF	0.5	-	2	km

Transmitter

Parameter	Minimum	Typical	Maximum	Unit
Lane 0 Center Wavelength (λ_{C0})	1264.5	1271	1277.5	nm
Lane 1 Center Wavelength (λ_{C1})	1284.5	1291	1297.5	nm
Lane 2 Center Wavelength (λ_{C2})	1304.5	1311	1317.5	nm
Lane 3 Center Wavelength (λ_{C3})	1324.5	1331	1337.5	nm
-20DB(Spectral Width	-	-	1	nm
Aggregate Bit Rate	-	41.25	-	Gbps
Data Rate Per Lane	-	10.3125	-	Gbps
Average Output Power Per Lane	-7	-	2.3	dBm
Extinction Ratio	3.5	-	-	dB

Receiver

Parameter	Minimum	Typical	Maximum	Unit
Lane 0 Center Wavelength (λ_{C0})	1264.5	1271	1277.5	nm
Lane 1 Center Wavelength (λ_{C1})	1284.5	1291	1297.5	nm
Lane 2 Center Wavelength (λ_{C2})	1304.5	1311	1317.5	nm
Lane 3 Center Wavelength (λ_{C3})	1324.5	1331	1337.5	nm
Average power per lane	-11.5	-	2.3	dBm
Damage Threshold	5	-	-	dB

QSFP-LR4-10-40GD

Detailed Specifications

Parameter	Minimum	Typical	Maximum	Unit
Storage Temperature	-40	-	85	°C
Operating Case Temperature - C-Temp	0	-	70	°C
Power Dissipation	-	-	3.5	W
Power Supply Voltage	3.135	3.3	3.465	V
Distance SMF	0.5	-	10	km

Transmitter

Parameter	Minimum	Typical	Maximum	Unit
Lane 0 Center Wavelength (λ_{C0})	1264.5	1271	1277.5	nm
Lane 1 Center Wavelength (λ_{C1})	1284.5	1291	1297.5	nm
Lane 2 Center Wavelength (λ_{C2})	1304.5	1311	1317.5	nm
Lane 3 Center Wavelength (λ_{C3})	1324.5	1331	1337.5	nm
-20DB Spectral Width	-	-	1	nm
Aggregate Bit Rate	-	41.25	-	Gbps
Data Rate Per Lane	-	10.3125	-	Gbps
Average Output Power Per Lane	-7	-	2.3	dBm
Extinction Ratio	3.5	-	-	dB

Receiver

Parameter	Minimum	Typical	Maximum	Unit
Lane 0 Center Wavelength (λ_{C0})	1264.5	1271	1277.5	nm
Lane 1 Center Wavelength (λ_{C1})	1284.5	1291	1297.5	nm
Lane 2 Center Wavelength (λ_{C2})	1304.5	1311	1317.5	nm
Lane 3 Center Wavelength (λ_{C3})	1324.5	1331	1337.5	nm
Average power per lane	-11.5	-	2.3	dBm
Damage Threshold	5.5	-	-	dB

QSFP-LR4-P-40GD

Detailed Specifications

Parameter	Minimum	Typical	Maximum	Unit
Storage Temperature	-40	-	85	°C
Operating Case Temperature - C-Temp	0	-	70	°C
Power Dissipation	-	-	2	W
Power Supply Voltage	3.135	3.3	3.465	V
Distance SMF	0.5	-	10	km

Transmitter

Parameter	Minimum	Typical	Maximum	Unit
Per Lane Center Wavelength (λC)	1260	1310	1360	nm
RMA Spectral Width	-	-	0.65	nm
Aggregate Bit Rate	-	40	-	Gbps
Data Rate Per Lane	-	10.3125	-	Gbps
Average Output Power Per Lane	-8.2	-	0.5	dBm
Extinction Ratio	3.5	-	-	dB
Optical Return Loss Tolerance	-	-	12	dB

Receiver

Parameter	Minimum	Typical	Maximum	Unit
Per Lane Center Wavelength	1260	1310	1360	nm
average power per lane	-12.6	-	0.5	dBm
Damage Threshold	3	-	-	dB

QSFP-LR4-20-40GD

Detailed Specifications

Parameter	Minimum	Typical	Maximum	Unit
Storage Temperature	-40	-	85	°C
Operating Case Temperature - C-Temp	0	-	70	°C
Power Dissipation	-	-	3.5	W
Power Supply Voltage	3.135	3.3	3.465	V
Distance SMF	0.5	-	20	km

Transmitter

Parameter	Minimum	Typical	Maximum	Unit
Lane 0 Center Wavelength (λ_{C0})	1264.5	1271	1277.5	nm
Lane 1 Center Wavelength (λ_{C1})	1284.5	1291	1297.5	nm
Lane 2 Center Wavelength (λ_{C2})	1304.5	1311	1317.5	nm
Lane 3 Center Wavelength (λ_{C3})	1324.5	1331	1337.5	nm
-20DB Spectral Width	-	-	1	nm
Aggregate Bit Rate	-	41.25	-	Gbps
Data Rate Per Lane	-	10.3125	-	Gbps
Average Output Power Per Lane	-3.5	-	2.3	dBm
Extinction Ratio	3.5	-	-	dB

Receiver

Parameter	Minimum	Typical	Maximum	Unit
Lane 0 Center Wavelength (λ_{C0})	1264.5	1271	1277.5	nm
Lane 1 Center Wavelength (λ_{C1})	1284.5	1291	1297.5	nm
Lane 2 Center Wavelength (λ_{C2})	1304.5	1311	1317.5	nm
Lane 3 Center Wavelength (λ_{C3})	1324.5	1331	1337.5	nm
Average power per lane	-12.5	-	2.3	dBm
Damage Threshold	5.5	-	-	dB

QSFP-ER4-40-40GD

Detailed Specifications

Parameter	Minimum	Typical	Maximum	Unit
Storage Temperature	-40	-	85	°C
Operating Case Temperature - C-Temp	0	-	70	°C
Operating Case Temperature - I-Temp	-40	-	85	
Power Dissipation C-Temp	-	-	3.5	W
Power Dissipation I-Temp	-	-	4.5	W
Power Supply Voltage	3.135	3.3	3.465	V
Distance SMF	-	-	40	km

Transmitter

Parameter	Minimum	Typical	Maximum	Unit
Lane 0 Center Wavelength (λC0)	1264.5	1271	1277.5	nm
Lane 1 Center Wavelength (λC1)	1284.5	1291	1297.5	nm
Lane 2 Center Wavelength (λC2)	1304.5	1311	1317.5	nm
Lane 3 Center Wavelength (λC3)	1324.5	1331	1337.5	nm
Side Mode Suppression Ratio	30	-	-	dB
Aggregate Bit Rate	-	41.25	-	Gbps
Data Rate Per Lane	-	10.3125	-	Gbps
Average Output Power Per Lane	-2.7	-	4.5	dBm
Extinction Ratio	5.5	-	-	dB

Receiver

Parameter	Minimum	Typical	Maximum	Unit
Lane 0 Center Wavelength (λC0)	1264.5	1271	1277.5	nm
Lane 1 Center Wavelength (λC1)	1284.5	1291	1297.5	nm
Lane 2 Center Wavelength (λC2)	1304.5	1311	1317.5	nm
Lane 3 Center Wavelength (λC3)	1324.5	1331	1337.5	nm
Average power per lane	-21.2	-	-4.5	dBm
Damage Threshold	5.5	-	-	dB

Additional Information

For more information about Integra Optics' QSFP+ 40G transceivers please contact a sales representative at sales@integraoptics.com or visit integraoptics.com