

QSFP-40G- ZXD8DXX

40GBase aggregating 4 x 10Gbps DWDM SM wavelengths (Duplex LC), distance up to 80km



Features

- Single wavelength 40GE transmission
- Fixed wavelengths on DWDM 100GHz Grid
- Up to 80km over SMF (with DCM and EDFA)
- Duplex LC connector
- Power dissipation 3.5W (Typical)
- 4 x 10G Electrical interface at host side
- Compliant with QSFP+ MSA SFF-8679
- Compliant with QSFP+ MSA SFF-8636
- QSFP+ MSA digital monitoring functions

Applications

- DWDM 40GE

Ordering Information

Part number	Description
QSFP-40G-ZXD8D##	QSFP+ 40Gbps module 40GBase aggregating 4 x 10Gbps with Digital Diagnostic Monitoring (DDM), ##nm SM (Duplex LC), distance up to 80km, where ## denotes *[see DWDM Wavelength Guide]

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	Ts	-40	+85	°C
Supply Voltage	Vcc	0	3.5	V
Operating Relative Humidity	RH	5	85 (Non-condensing)	%
Receiver Damage Threshold		5		dBm

Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Case Temperature	Tc	0	25	70	°C
Power Supply Voltage	Vcc	3.15	3.3	3.45	V
Power Dissipation	PD		3.2	TBD	W

Performance Specifications – Electrical

Parameter	Symbol	Min.	Typ.	Max	Unit	Notes
HS Data rate per lane			10.3125		Gbit/s	Total 4 lanes
Data rate variation		-100		+100	ppm	
Transmitter						
Input swing (diff.)	Vin	250		800	mVpp	AC coupled
Input impedance (diff.)	Zin	85	100	115	ohm	
Receiver						
Output swing (diff.)	Vout	450			mVpp	AC coupled
Output impedance(diff.)	Zout	85	100	115	ohm	
Low Speed Signals						
LPMODE, Reset, ModSel	VIL	-0.3		0.8	V	
	VIH	2		Vcc+0.3		
ModPrs, Int	VOL	0		0.4	V	IOL=2.0mA
	VOH	Vcc-0.5		Vcc+0.3		
SCL, SDA	VIL	-0.3		0.3*Vcc	V	
	VIH	0.7*Vcc		Vcc+0.3		
SCL, SDA	VOL	0		0.4	V	IOL(max)=3.0mA
	VOH	Vcc-0.5		Vcc+0.3		

Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Data Rate			41.25		Gbps
Transmitter					
Optical Central Wavelength	λ_c		See Table 1		nm
Central Wavelength Stability		$\lambda_c - 0.1$		$\lambda_c + 0.1$	nm
Average Output Power	P _{out}	-1		3	dBm
Optical Output Power (Tx: OFF)	P _{off}			-30	dBm
Receiver					
Operating Wavelength		1260		1570	nm
Receiver Sensitivity (ave. power) *(note4)	P _{sen}			TBD	dBm
Receiver Overload (ave. power)	P _{sat}	+4			dBm
Optical Return Loss	ORL	-27			dB
Receiver Dispersion Tolerance*(note5)		Note 5			ps/nm
Receiver OSNR tolerance		TBD			dB
LOS Asserted	LOSA	TBD			dBm
LOS De-asserted	LOSD			TBD	dBm
LOS Hysteresis		1			dB

Note4: Rx sensitivity is measured with our specified TX optical signal without dispersion and noise load.

Note5: Rx dispersion tolerance may be adjusted depending on application conditions,

DWDM Wavelength Guide

Ch(nm)	Freq(THz)	Central Wavelength(nm)	Ch(nm)	Freq(THz)	Central Wavelength(nm)
20	192.0	1561.42	40	194.0	1545.32
21	192.1	1560.61	41	194.1	1544.53
22	192.2	1559.79	42	194.2	1543.73
23	192.3	1558.98	43	194.3	1542.94

24	192.4	1558.17	44	194.4	1542.14
25	192.5	1557.36	45	194.5	1541.35
26	192.6	1556.55	46	194.6	1540.56
27	192.7	1555.75	47	194.7	1539.77
28	192.8	1554.94	48	194.8	1538.98
29	192.9	1554.13	49	194.9	1538.19
30	193.0	1553.33	50	195.0	1537.40
31	193.1	1552.52	51	195.1	1536.61
32	193.2	1551.72	52	195.2	1535.82
33	193.3	1550.92	53	195.3	1535.04
34	193.4	1550.12	54	195.4	1534.25
35	193.5	1549.32	55	195.5	1533.47
36	193.6	1548.51	56	195.6	1532.68
37	193.7	1547.72	57	195.7	1531.90
38	193.8	1546.92	58	195.8	1531.12
39	193.9	1546.12	59	195.9	1530.33
			60	196.0	1529.55