DATA SHEET

Optical Node Series

Small Form-factor Pluggables (SFP)

4.25 Gbps Digital Return Field Hardened SFPs

FEATURES

- Simplified logistics with Small Form-factor Pluggable (SFP) optics
- Tailor network demands with the following optics:
  - 1310
  - CWDM
  - DWDM
- For use in CommScope Digital Return Path Transmitters:
  - OM6DTX-SFP-285-5A8
  - OM6DTX-SFP-285-5B8
  - DT7030N-85-01
  - DT7230N-85-02
  - SG4-DRT-2X-85

Small Form-factor Pluggable, MSA-compliant optics are available in a variety of technologies designed to satisfy a wide range of network requirements. CommScope provides these 4.25 Gbps, industrial temperature-rated SFPs to ensure the overall link performance is maintained. For short links less than 10 km, a low-power 1310 nm SFP is available that delivers a lower-cost solution than analog return transmitters on a per RF stream basis. To take advantage of longer links of up to 40 km, CWDM SFPs are available in 18 wavelengths. With the addition of ruggedized optical passives, operators can aggregate multiple wavelengths for fiber savings.

For greater distances of up to 80 km, DWDM SFPs are available in 40 ITU wavelengths to maximize wavelength aggregation and provide design flexibility. Operators can utilize optical amplification to extend distances as required by network designs.

SPECIFICATIONS

Characteristics	Specifications[1]		
Environmental			
Case Operating Temperature	-40° to 92°C (-40° to 197.6°F)		
Storage Temperature	-40° to 85°C (-40° to 185°F)		
Storage Relative Humidity	5% to 95%		
10 km 1310 nm Transceiver SFP (1509443-001)	**Min**	**Typ**	**Max**
Input Voltage, VDC	3.1	3.3	3.5
Input Differential Impedance, ohm	—	100	—
Data Rate, Gbps	—	—	4.25
Single Ended Data Input Swing, Voltage In, mV p-p	100	—	500
Extinction Ratio, dB	5	—	—
Jitter, Peak to Peak, UI	—	—	0.07
Optical Wavelength, nm	1270	—	1360
Optical Output Power, dBm	-8	—	-1
Receiver Sensitivity (Input Power), dBm	—	—	-18
Return Loss, dB	12	—	—
Spectral Width (FWHM), nm	—	—	2.5
Dispersion Penalty (10 km), dB	—	—	2
40 km CWDM Transceiver SFP (1509444-xxx)	**Min**	**Typ**	**Max**
Input Voltage, VDC	3.135	3.3	3.465
Input Differential Impedance, ohm	—	100	—
Data Rate, Gbps	—	—	4.25
Single Ended Data Input Swing, Voltage In, mV p-p	100	—	500
Extinction Ratio, dB	5	—	—
Jitter, Peak to Peak, UI	—	—	0.07
Center Wavelength Spacing, nm	—	20	—
Optical Output Power, dBm	0	—	5
Receiver Sensitivity (Input Power), dBm	—	—	-23
Return Loss, dB	12	—	—
Spectral Width (-20 dB), nm	—	—	1
Side Mode Suppression Ratio (SMSR), dB	30	—	—
Relative Intensity Noise (RIN), dB/Hz	—	—	-120
80 km DWDM Transmitter SFP (1509445-xxx)	**Min**	**Typ**	**Max**
Input Voltage, VDC	3.135	3.3	3.465
Input Differential Impedance, ohm	—	100	—
Data Rate, Gbps	—	—	4.25
Transmitter Differential Input Voltage, mV	200	—	2000
Extinction Ratio, dB	5.0	—	—
Jitter, Peak to Peak, UI	—	—	75
Output Power, dBm	3	—	7
Center Wavelength Spacing, GHz	—	100 (approximately 0.8 nm)	—
Spectral Width (-20 dB), nm	—	—	0.3
Side Mode Suppression Ratio (SMSR), dB	35	—	—
Relative Intensity Noise (RIN), dB/Hz	—	—	-120

NOTE:

1. The proper identification of an SFP transceiver or transmitter and other EMS/performance parameters are only guaranteed when using CommScope recommended SFPs.

SFP ORDERING INFORMATION

Part Number	Description
	10 km 1310 nm SFP Transceiver[1]
1509443-001	4.25 Gbps, 1310 nm, LC/UPC, –8 dBm, -40° to +92°C, DDM
	40 km CWDM SFP Transceivers[2]
1509444-271	4.25 Gbps, 1271 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-291	4.25 Gbps, 1291 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-311	4.25 Gbps, 1311 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-331	4.25 Gbps, 1331 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-351	4.25 Gbps, 1351 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-371	4.25 Gbps, 1371 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-431	4.25 Gbps, 1431 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-451	4.25 Gbps, 1451 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-471	4.25 Gbps, 1471 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-491	4.25 Gbps, 1491 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-511	4.25 Gbps, 1511 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-531	4.25 Gbps, 1531 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-551	4.25 Gbps, 1551 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-571	4.25 Gbps, 1571 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-591	4.25 Gbps, 1591 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
1509444-611	4.25 Gbps, 1611 nm, LC/UPC, 0 dBm, -40° to +92°C, DDM
	80 km DWDM SFP Transmitters[3]
1509445-201	4.25 Gbps, Channel 20, 1561.42 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-211	4.25 Gbps, Channel 21, 1560.61 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-221	4.25 Gbps, Channel 22, 1559.79 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-231	4.25 Gbps, Channel 23, 1558.98 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-241	4.25 Gbps, Channel 24, 1558.17 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-251	4.25 Gbps, Channel 25, 1557.36 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-261	4.25 Gbps, Channel 26, 1556.56 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-271	4.25 Gbps, Channel 27, 1555.75 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-281	4.25 Gbps, Channel 28, 1554.94 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-291	4.25 Gbps, Channel 29, 1554.13 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-301	4.25 Gbps, Channel 30, 1553.33 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-311	4.25 Gbps, Channel 31, 1552.52 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-321	4.25 Gbps, Channel 32, 1551.72 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-331	4.25 Gbps, Channel 33, 1550.92 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-341	4.25 Gbps, Channel 34, 1550.12 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-351	4.25 Gbps, Channel 35, 1549.32 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-361	4.25 Gbps, Channel 36, 1548.51 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-371	4.25 Gbps, Channel 37, 1547.72 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-381	4.25 Gbps, Channel 38, 1546.92 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-391	4.25 Gbps, Channel 39, 1546.12 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-401	4.25 Gbps, Channel 40, 1545.32 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-411	4.25 Gbps, Channel 41, 1544.53 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-421	4.25 Gbps, Channel 42, 1543.73 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-431	4.25 Gbps, Channel 43, 1542.94 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-441	4.25 Gbps, Channel 44, 1542.14 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-451	4.25 Gbps, Channel 45, 1541.35 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-461	4.25 Gbps, Channel 46, 1540.56 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-471	4.25 Gbps, Channel 47, 1539.77 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-481	4.25 Gbps, Channel 48, 1538.98 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-491	4.25 Gbps, Channel 49, 1538.19 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-501	4.25 Gbps, Channel 50, 1537.40 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-511	4.25 Gbps, Channel 51, 1536.61 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-521	4.25 Gbps, Channel 52, 1535.82 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-531	4.25 Gbps, Channel 53, 1535.04 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-541	4.25 Gbps, Channel 54, 1534.25 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-551	4.25 Gbps, Channel 55, 1533.47 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-561	4.25 Gbps, Channel 56, 1532.68 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-571	4.25 Gbps, Channel 57, 1531.90 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-581	4.25 Gbps, Channel 58, 1531.12 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-591	4.25 Gbps, Channel 59, 1530.33 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM
1509445-601	4.25 Gbps, Channel 60, 1529.55 nm, LC/UPC, 3 dBm, -40° to +92°C, DDM

NOTES:
1. Replaces legacy Motorola p/n 586027-001-00
2. Replaces legacy Motorola p/n 586019-TAB-00
3. Replaces legacy Motorola p/n 586020-TAB-00

SFP ORDERING INFORMATION

Part Number	Description
	Fiber Optic Pigtails with Bulkhead Connectors*
1505889**	Kit, Opti Max OM4100 LC/UPC to SC/APC 1.6 mm jacketed, 0.5 meter
1505890	Kit, Opti Max OM4100 LC/UPC to SC/UPC 1.6 mm jacketed, 0.5 meter

*Must order fiber optic pigtail with bulkhead connectors. Refer to the applicable Opti Max Optical Node Equipment Manual for more information.
** Includes SMB to MCX jumper cable.

1505889 and 1505890 include adhesive mount for cable tie not the cable tie itself.

RELATED PRODUCTS

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CHP Power Supplies	Optical Passives
CHP Management Modules	Installation Services

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656

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Note: Specifications are subject to change without notice.

1514725_4.25 Gbps SFP_DS_RevA