Single and Dual Channel Optical Add/Drop Multiplexer



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DATASHEET



Features

- 100/200GHz ITU Channel Spacing
- Low Insertion Loss
- Wide Pass Band
- High Channel Isolation
- High Stability and Reliability
- Epoxy Free Optical Path

Applications

- Channel Add / Drop
- DWDM Network

Rev 08/14/24

- Wavelength Routing
- Fiber Optical Amplifier
- CATV Fiberoptic System

100/200 GHz 1 and 2 Channels OADM utilizes thin film coating technology and proprietary design of non-flux metal bonding micro optics packaging to achieve optical add and drop at the ITU wavelength. It provides ITU channel center wavelength, low insertion loss, high channel isolation, wide pass band, low temperature sensitivity and epoxy free optical path. It can be used for wavelength add/drop in telecommunication network system.

Specifications

| Parameter | Sp | ecifications | (Mux / Dem | ux) | Unit |
|--|---|---|----------------------|---|-----------|
| Operating Wavelength | 1530 | .33 - 1560.62 | 1 (21~ 59 ITU | grid) | nm |
| Minimum Channel Spacing | 10 | 00 | 20 | 00 | GHz |
| Center Wavelength Accuracy | ± 0 | .05 | ± (| 0.1 | nm |
| Number of Channels | 1 | 2 | 1 | 2 | |
| Channel Passband (@-0.5dB bandwidth) | ≥ 0 | .22 | ≥ (| 0.5 | nm |
| Insertion Loss (Add / Drop Ch.) | ≤ 1.2 | ≤ 1.2 | ≤ 1.2 | ≤ 1.2 | dB |
| Insertion Loss (Add / Drop Ch.) | - | ≤ 1.5 | - | ≤ 1.5 | dB |
| Insertion Loss (Express Ch.) | ≤ 1.0 | ≤ 1.4 | ≤ 1.0 | ≤ 1.4 | dB |
| Channel Uniformity | ≤ 0.4 | ≤ 0.6 | ≤ 0.4 | ≤ 0.6 | 8ch: ≤1.0 |
| Channel Isolation (Demux only) | ≥ 25 (Adjacent) ≥ 35 (Non- adjacent) | ≥ 25 (Adjacent) ≥ 45 (Non- adjacent) | | ≥ 25 (Adjacent) ≥ 35 (Non- adjacent) | dB |
| Channel Ripple | ≤0.3 | | | | dB |
| Insertion Loss Temperature Sensitivity | | ≤ 0. | 003 | | dB/°C |
| Wavelength Temperature Shifting | ≤ 0.002 | | | | nm/°C |
| Polarization Dependent Loss | | ≤ (| 0.1 | | dB |
| Polarization Mode Dispersion | | ≤ (| 0.1 | | ps |
| Directivity | | ≥. | 50 | | dB |
| Return Loss | | ≥ . | 45 | | dB |
| Optical Power | | ≤ 3 | 00 | | mW |
| Operating Temperature | 0 to +7 | • | temperature Jest) | es upon | °C |
| Storage Temperature | | - 40 t | o +85 | | °C |
| Package Dimension | | S = 89x51 | x8.0 case | | mm |

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this <u>link</u>]:

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|--|---------------------------|-------------------|-------------------------|------------------|
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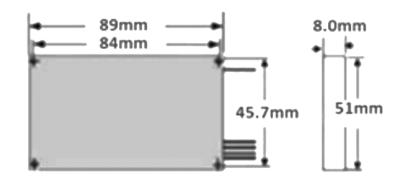
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Single and Dual Channel Optical Add/Drop Multiplexer



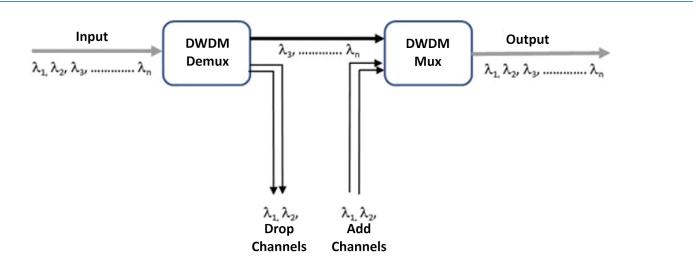
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Mechanical Dimensions (mm)



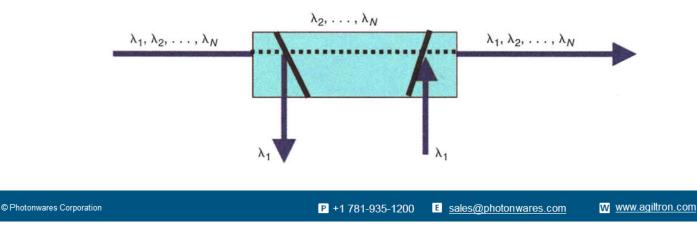
*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Channel Configurations



Optical Function Path Illustration

Wavelength multiplexing and Demultiplexing can be illustrated below in a single-channel optical add-drop case.



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Ordering Information

| Prefix | Channel Spacing | Configuration | 1 st (ITU) Channel ^[1] Wavelength | Package | Fiber Type ^[2] | Fiber Cover | Fiber Length | In Connector | Out Connector |
|--------|----------------------|--|--|---------------|--------------------------------------|---|--|--|--|
| DWDM- | 100GHz=1 200GHz=2 | 1 Ch Add/Drop = 0202 2 Ch Add/Drop = 0303 | 1560.61nm=C21 1559.79nm=C22 1530.33nm=C59 | S Package = S | SMF-28 Ultra=2 ZBL=3 Special=0 | Bare fiber=1 900 µm tube=2 3mm jacket=3 2mm jacket=4 1.6mm jacket=5 | 0.5m=05 1.0m=10 1.5m=15 2m=20 | None=0 FC/APC=1 FC/PC=2 SC/APC=3 SC/PC=4 ST=5 LC/UPC=6 LC/APC=7 | None=0 FC/APC=1 FC/PC=2 SC/APC=3 SC/PC=4 ST=5 LC/UPC=6 LC/APC=7 |

[1]. O and L band wavelengths are also available upon request.

[2]. SMF-28(G.652)=1 is available upon request.

ITU Table

| Channel | f (GHz) | λ (nm) | Channel | f (GHz) | λ (nm) | Channel | f (GHz) | λ (nm) | Channel | f (GHz) | λ (nm) |
|------------|------------------|--------------------|---------|------------------|--------------------|------------|---------|--------------------|---------|---------|---------|
| L48 | 184800 | 1622.25 | Q76 | 187650 | 1597.62 | C05 | 190500 | 1573.71 | H33 | 193350 | 1550.52 |
| Q48 | 184850 | 1621.81 | L77 | 187700 | 1597.19 | H05 | 190550 | 1573.30 | C34 | 193400 | 1550.12 |
| L49 | 184900 | 1621.38 | Q77 | 187750 | 1596.76 | C06 | 190600 | 1572.89 | H34 | 193450 | 1549.72 |
| Q49 | 184950 | 1620.94 | L78 | 187800 | 1596.34 | H06 | 190650 | 1572.48 | C35 | 193500 | 1549.32 |
| L50 | 185000 | 1620.50 | Q78 | 187850 | 1595.91 | C07 | 190700 | 1572.06 | H35 | 193550 | 1548.91 |
| Q50 | 185050 | 1620.06 | L79 | 187900 | 1595.49 | H07 | 190750 | 1571.65 | C36 | 193600 | 1548.51 |
| L51 | 185100 | 1619.62 | Q79 | 187950 | 1595.06 | C08 | 190800 | 1571.24 | H36 | 193650 | 1548.11 |
| Q51 | 185150 | 1619.19 | L80 | 188000 | 1594.64 | H08 | 190850 | 1570.83 | C37 | 193700 | 1547.72 |
| L52 | 185200 | 1618.75 | Q80 | 188050 | 1594.22 | C09 | 190900 | 1570.42 | H37 | 193750 | 1547.32 |
| Q52 | 185250 | 1618.31 | L81 | 188100 | 1593.79 | H09 | 190950 | 1570.01 | C38 | 193800 | 1546.92 |
| L53 | 185300 | 1617.88 | Q81 | 188150 | 1593.37 | C10 | 191000 | 1569.59 | H38 | 193850 | 1546.52 |
| Q53 | 185350 | 1617.44 | L82 | 188200 | 1592.95 | H10 | 191050 | 1569.18 | C39 | 193900 | 1546.12 |
| L54 | 185400 | 1617.00 | Q82 | 188250 | 1592.52 | C11 | 191100 | 1568.77 | H39 | 193950 | 1545.72 |
| Q54 | 185450 | 1616.57 | L83 | 188300 | 1592.10 | H11 | 191150 | 1568.36 | C40 | 194000 | 1545.32 |
| L55 | 185500 | 1616.13 | Q83 | 188350 | 1591.68 | C12 | 191200 | 1567.95 | H40 | 194050 | 1544.92 |
| Q55 | 185550 | 1615.70 | L84 | 188400 | 1591.26 | H12 | 191250 | 1567.54 | C41 | 194100 | 1544.53 |
| L56 | 185600 | 1615.26 | Q84 | 188450 | 1590.83 | C13 | 191200 | 1567.13 | H41 | 194150 | 1544.13 |
| Q56 | 185650 | 1614.83 | L85 | 188500 | 1590.41 | H13 | 191350 | 1566.72 | C42 | 194200 | 1543.73 |
| L57 | 185700 | 1614.83 | Q85 | 188550 | 1589.99 | C14 | 191350 | 1566.31 | H42 | 194200 | 1543.33 |
| Q57 | 185750 | 1613.96 | L86 | 188600 | 1589.57 | H14 | 191450 | 1565.90 | C43 | 194300 | 1543.94 |
| L58 | 185800 | 1613.52 | Q86 | 188650 | 1589.15 | C15 | 191500 | 1565.50 | H43 | 194350 | 1542.54 |
| Q58 | 185850 | 1613.09 | L87 | 188700 | 1588.73 | H15 | 191550 | 1565.09 | C44 | 194400 | 1542.14 |
| L59 | 185900 | 1612.65 | Q87 | 188750 | 1588.30 | C16 | 191600 | 1564.68 | H44 | 194400 | 1542.14 |
| Q59 | 185950 | 1612.03 | L88 | 188800 | 1587.88 | H16 | 191650 | 1564.00 | C45 | 194500 | 1541.35 |
| L60 | 186000 | 1611.79 | Q88 | 188850 | 1587.46 | C17 | 191700 | 1563.86 | H45 | 194550 | 1540.95 |
| Q60 | 186050 | 1611.35 | L89 | 188900 | 1587.04 | H17 | 191750 | 1563.45 | C46 | 194600 | 1540.56 |
| L61 | 186100 | 1610.92 | Q89 | 188950 | 1586.62 | C18 | 191750 | 1563.05 | H46 | 194650 | 1540.56 |
| Q61 | 186150 | 1610.92 | L90 | 189000 | 1586.20 | H18 | 191850 | 1562.64 | C47 | 194650 | 1539.77 |
| L62 | 186200 | 1610.45 | Q90 | 189050 | 1585.78 | C19 | 191900 | 1562.23 | H47 | 194750 | 1539.3 |
| Q62 | 186250 | 1609.62 | L91 | 189000 | 1585.36 | H19 | 191950 | 1561.83 | C48 | 194750 | 1538.98 |
| L63 | 186300 | 1609.62 | Q91 | 189100 | 1584.95 | C20 | 192000 | 1561.42 | H48 | 194800 | 1538.58 |
| Q63 | 186350 | 1609.19 | L92 | 189200 | 1584.53 | H20 | 192000 | 1561.01 | C49 | 194850 | 1538.19 |
| L64 | 186400 | 1608.33 | Q92 | 189250 | 1584.11 | C21 | 192030 | 1560.61 | H49 | 194950 | 1536.18 |
| Q64 | 186450 | 1607.90 | L93 | 189300 | 1583.69 | H21 | 192100 | 1560.20 | C50 | 195000 | 1537.40 |
| L65 | 186500 | 1607.90 | Q93 | 189350 | 1583.27 | C22 | 192150 | 1559.79 | H50 | 195050 | 1537.40 |
| Q65 | 186550 | 1607.04 | L94 | 189300 | 1582.85 | H22 | 192250 | 1559.39 | C51 | 195050 | |
| L66 | 186600 | 1606.60 | Q94 | 189450 | 1582.44 | C23 | 192230 | 1558.98 | H51 | 195150 | 1536.6 |
| Q66 | 186650 | 1606.00 | L95 | 189450 | 1582.02 | H23 | 192300 | 1558.58 | C52 | 195150 | 1535.82 |
| L67 | 186700 | | Q95 | | | | 192350 | | H52 | 195250 | 1535.43 |
| Q67 | 186700 | 1605.74 1605.31 | L96 | 189550 189600 | 1581.60 1581.18 | C24 H24 | 192400 | 1558.17 1557.77 | C53 | 195250 | 1535.4 |
| L68 | 186800 | 1604.88 | Q96 | 189650 | 1580.77 | C25 | 192450 | 1557.36 | H53 | 195350 | 1535.04 |
| Q68 | 186850 | 1604.66 | L97 | 189650 | 1580.35 | H25 | 192550 | 1556.96 | C54 | 195350 | 1534.0 |
| L69 | 186900 | 1604.46 | Q97 | 189700 | 1580.35 | C26 | 192550 | 1556.55 | H54 | 195400 | 1534.2 |
| Q69 | 186950 | 1603.60 | L98 | 189800 | 1579.93 | H26 | 192600 | 1556.15 | C55 | 195450 | 1533.47 |
| L70 | 186950 | 1603.60 | Q98 | 189800 | 1579.52 | C27 | 192650 | 1555.75 | H55 | 195550 | 1533.4 |
| Q70 | 187050 | 1603.17 | L99 | 189850 | 1579.10 | H27 | 192700 | 1555.34 | C56 | 195550 | 1533.0 |
| L71 | 187100 | 1602.74 | Q99 | 189900 | 1578.27 | C28 | 192750 | 1554.94 | H56 | 195650 | 1532.00 |
| Q71 | 187150 | 1602.31 | L00 | 190000 | 1578.27 | H28 | 192800 | 1554.54 | C57 | 195650 | 1532.25 |
| L72 | 187200 | 1601.66 | Q00 | 190000 | 1577.44 | C29 | 192850 | 1554.13 | H57 | 195750 | 1531.9 |
| Q72 | 187250 | 1601.46 | C01 | 190050 | 1577.03 | H29 | 192900 | 1553.73 | C58 | 195750 | 1531.5 |
| L73 | 187250 | 1601.03 | H01 | 190100 | 1577.03 | H29 C30 | 192950 | 1553.73 | H58 | 195800 | 1531.12 |
| Q73 | | | C02 | 190150 | | H30 | 193000 | 1553.33 | C59 | 195850 | 1530.72 |
| L74 | 187350 187400 | 1600.17 1599.75 | H02 | 190200 | 1576.20 | C31 | 193050 | 1552.93 | H59 | 195900 | 1530.33 |
| | | | | | | | | | | | |
| Q74 | 187450 | 1599.32 | C03 | 190300 | 1575.37 | H31 | 193150 | 1552.12 | C60 | 196000 | 1529.55 |
| L75 Q75 | 187500 187550 | 1598.89 | H03 | 190350 | 1574.95 | C32 | 193200 | 1551.72 | H60 | 196050 | 1529.16 |
| | 18/550 | 1598.47 | C04 | 190400 | 1574.54 | H32 | 193250 | 1551.32 | C61 | 196100 | 1528.77 |

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