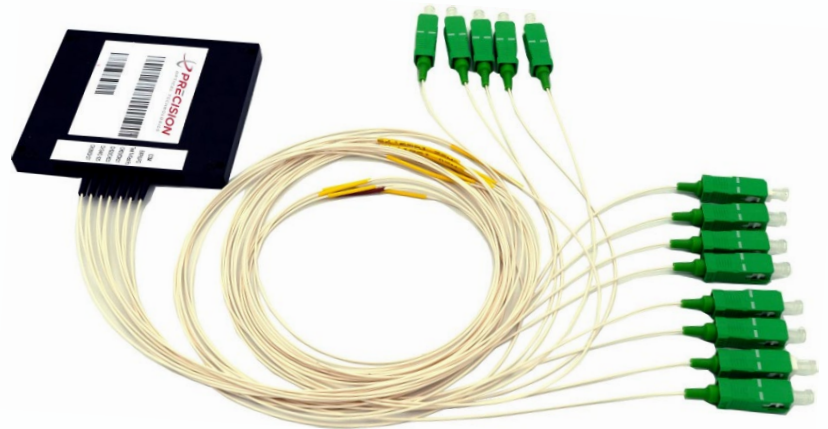


# 16 & 20-Channel DWDM Passive Filter OSP (Outdoor Use)

## Product Description:

16 or 20-Channel DWDM Thin Film Filter with the following options:

- Upgrade/Express/Test Ports
- Multiple Cassette Sizes/Pigtail Lengths
- UPC/APC Connectors



## Product Ordering Information

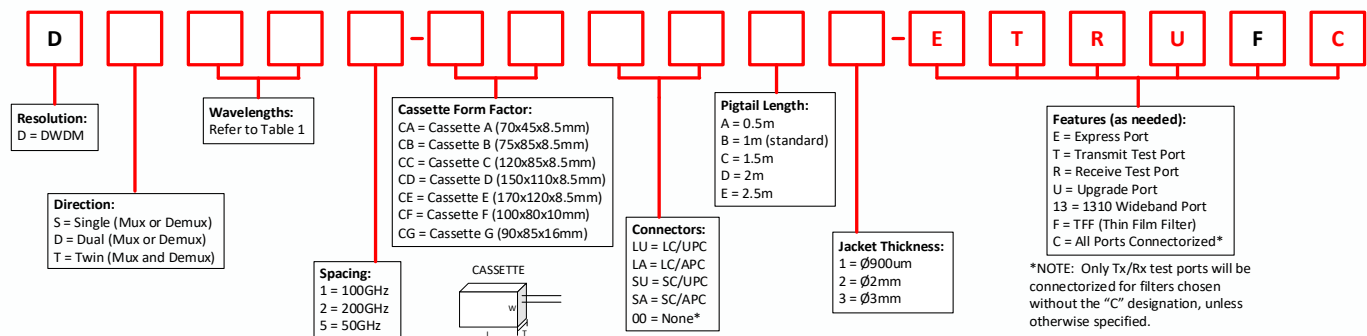


Table 1

| CHANNEL DESIGNATION |                  |
|---------------------|------------------|
| 16 = ITU 25 - 40    | 21 = ITU 20 - 39 |
| 16A = ITU 20 - 35   | 22 = ITU 40 - 59 |

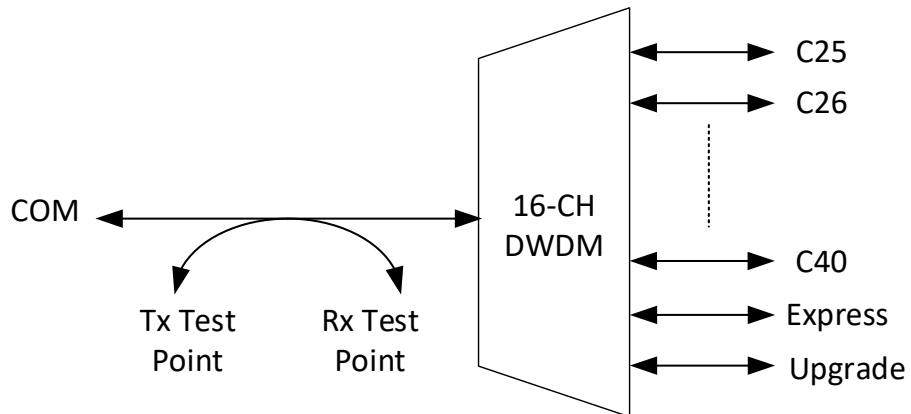
## Part Number / Description Examples

| Part Number        | Single Description   |
|--------------------|--|
| DS161-CBSAB1-ETRUF | DWDM, Single (Mux or Demux), ITU <b>25-40</b> , 100GHz grid, Outdoor Cassette Type B (75x85x8.5mm), $\varnothing$ 900um 1m pigtail with label, with SC-APC on Transmit/Receive Test ports, Unterminated DWDM + Express + Upgrade ports, Thin Film Filter |
| DS211-CBSAB1-ETRUF | DWDM, Single (Mux or Demux), ITU <b>20-39</b> , 100GHz grid, Outdoor Cassette Type B (75x85x8.5mm), $\varnothing$ 900um 1m pigtail with label, with SC-APC on Transmit/Receive Test ports, Unterminated DWDM, Express, Upgrade ports, Thin Film Filter   |
| Part Number        | Twin Description   |
| DT221-CGLUA1-ETRUF | DWDM, Twin (Mux + Demux), ITU <b>40-59</b> , 100GHz grid, Outdoor Cassette Type G (90x85x16mm), $\varnothing$ 900um 0.5m pigtail with label, with LC-UPC on all DWDM/Express/Upgrade/Test ports, Thin Film Filter  |

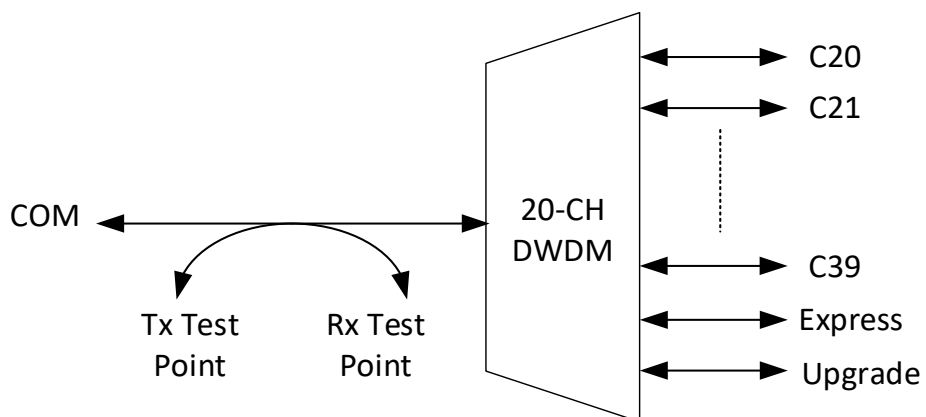
## Optical Characteristics

| Parameter   | Value   | Unit   |
|---|---|--------|
| DWDM Passband @ -0.5dB                                | $\lambda_c \pm 0.125$   | nm     |
| DWDM passband insertion loss @ -0.5dB                 | < 3.5 (16-Ch)<br>< 3.8 (20-Ch)  | dB     |
| DWDM passband ripple @ -0.5dB                         | < 0.5   | dB     |
| Test port insertion loss (dB)                         | $20 \pm 2$  | dB     |
| Express insertion loss                                | < 1.5   | dB     |
| Express passband ripple                               | < 0.5   | dB     |
| Express passband                                      | 1260-1520 (1420-1520 w/ 1310 Port)<br>1570-1635   | nm     |
| Upgrade insertion loss                                | < 3.5   | dB     |
| Upgrade passband                                      | Any ITU wavelengths within ITU 14 to 62 that is not being designated on the front plate | nm     |
| 1310 port insertion loss                              | < 1.5   | dB     |
| 1310 port passband ripple                             | < 0.5   | dB     |
| 1310 port passband                                    | $\sim 1260-1360$  | dB     |
| DWDM uniformity                                       | < 1.5   | dB     |
| Isolation Adj (COM-DWDM)                              | > 30  | dB     |
| Isolation Non-Adj (COM-DWDM)                          | > 45  | dB     |
| Isolation Non-Adj (COM-EXP)                           | > 12  | dB     |
| DWDM directivity                                      | > 50  | dB     |
| EXPRESS directivity                                   | > 45  | dB     |
| Return loss   | > 45  | dB     |
| Polarization dependent loss                           | < 0.2   | dB     |
| Polarization mode dispersion                          | < 0.15  | ps     |
| IL thermal stability                                  | < 0.005   | dB/°C  |
| Wavelength thermal stability                          | < 0.001   | nm/°C  |
| Maximum input power                                   | 300 / 24.8  | mW/dBm |
| Operating temperature                                 | -40 to +85  | °C     |
| Operating humidity                                    | 5 to 95   | %      |
| Tensile strength pull strength (up to 10 seconds max) | > 20 <sup>3</sup>   | N      |
| Fiber type (all ports)                                | SMF-28e (G.657.A1)  |        |

## Filter Optical Design

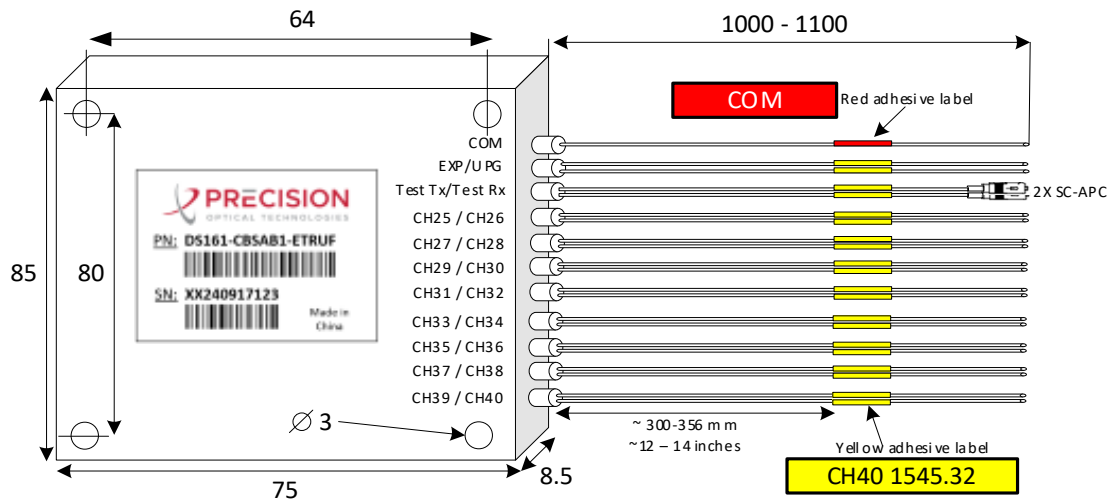


16-Channel DWDM Design (high level)

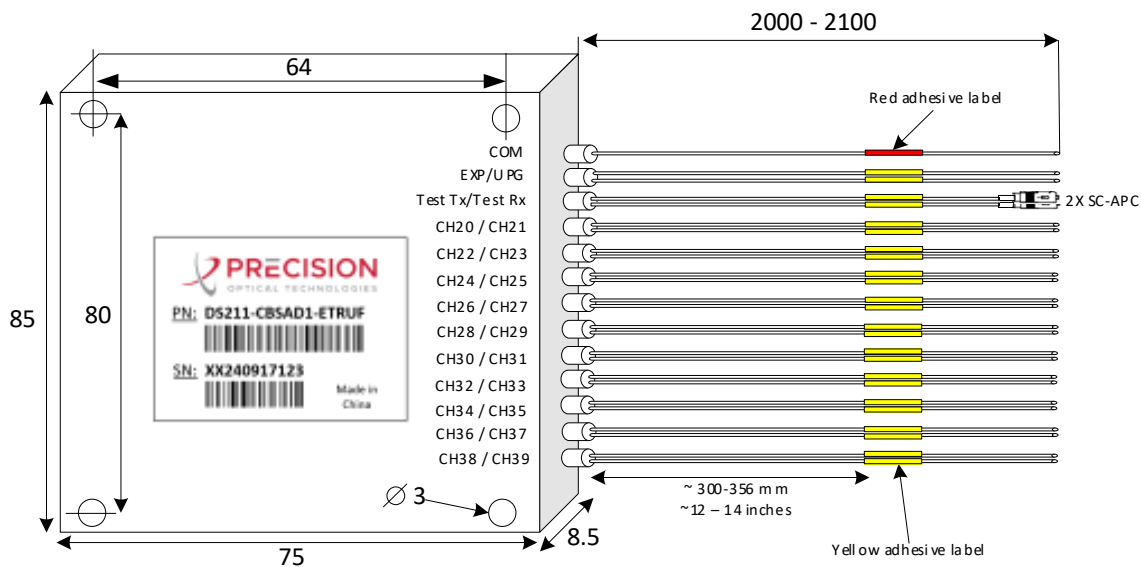


20-Channel DWDM Design (high level)

## Filter Physical Design



**16-Channel DWDM External Design (mm)**  
(DS161-CBSAB1-ETRUF shown)



**20-Channel DWDM External Design (mm)**  
(DS211-CBSAD1-ETRUF shown)