Optical Passives (OSP)
OP95F1S
Single-channel DWDM Optical Filter

FEATURES

- Low insertion loss
- Operating temperature range –40°C to +85°C
- Selection of supported narrowcast channels on standard 100 GHz DWDM ITU Grid
- High channel isolation to minimize crosstalk
- Telcordia GR-1209 and GR-1221 qualified, providing excellent environmental and mechanical stability
- Variety of options for module package size, fiber jacket and connector types
- Epoxy-free on optical path

PRODUCT OVERVIEW

ARRIS’s OP95F1S series Single-channel DWDM Optical Filters have been designed with low insertion and polarization dependent losses. These three-port filters are used to add (or drop) a single DWDM narrowcast wavelength to (or from) a set of DWDM optical wavelengths.

The filters are available in two versions of packaging for outdoor use, one version ruggedized for easy handling and the second version, though not ruggedized, being smaller and easier to fit in a splice enclosure. Both versions are designed for use in an outdoor environment within a temperature range of –40° to +85°C.
## SPECIFICATIONS

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<td>Dimensions</td>
<td>See Ordering Information</td>
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<td>Weight, ruggedized packages</td>
<td>0.2 lbs (0.9 kg)</td>
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<td><strong>Environmental</strong></td>
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<tr>
<td>Operating Temperature Range</td>
<td>–40°C to +85°C (–40°F to +185°F)</td>
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<tr>
<td>Storage Temperature Range</td>
<td>–40°C to +85°C (–40°F to +185°F)</td>
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<tr>
<td>Humidity</td>
<td>5% to 95% non-condensing</td>
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<td><strong>Optical Interface</strong></td>
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</table>
| Mux input/output ports | Function as MUX  
 DWDM pass-through input  
 xx add/input channel  
 output to fiber network  
 Function as DEMUX  
 DWDM pass-through output  
 xx drop/output channel  
 input from fiber network  |

### Optical

- **Insertion losses (without connectors)**
  - Typical: DWDM I/O to COM: 0.4 dB  
    Ch. xx I/O to COM: 0.6 dB  
  - Max: DWDM pass-through input: 0.50 dB  
    xx add/input channel output to fiber network: 0.8 dB

- **Passband @ 0.5 dB**: ± 0.125 nm
- **Ripple within passband**: 0.5 dB
- **Ripple within passband**: 0.5 dB
- **Directivity, min**: 55 dB
- **Return loss, min**: 45 dB
- **Polarization dependent loss, max**: 0.1 dB (≤ 0.05 dB typ)
- **Adjacent channel isolation, min**: 32 dB
- **Non-adjacent channel isolation, min**: 45 dB
- **Power handling, max (any input port)**: 21.8 dBm

### ITU Channel Plans

ARRIS supports DWDM network architectures with a variety of products having 100 GHz center frequency spacing on the standard DWDM ITU Grid (ITU-T G.694.1) for 40 channels from Channel 20 (1561.42 nm) to Channel 59 (1530.33 nm).

For more complete description of available DWDM ITU Grid channels and ARRIS’s partitioning into convenient logical groups of 4, 8 and 16 channels in products for DWDM mux and demux applications, please refer to the ARRIS DWDM ITU Grid Channel Plan data sheet.

When ordering Single-channel DWDM Optical Filters, please note, for network planning purposes, that AT3550 “BC” series broadcast transmitters operate at 1545.3 nm ± 0.9 nm, occupying the approximate region of DWDM ITU Grid channels 39 through 41; as a result no channel within ARRIS’s ITU Channel Plan Groups N or P (channels 36 through 43) should be used as a narrowcast channel.
Three examples are shown below (two approximately full scale). For non-ruggedized tubes, the fiber optic leads are color-coded as shown.

**OP95F1S-37-R2-AS** Single-channel Filter (for DWDM Channel 37) in Ruggedized Package with SC/APC Connectors (image reduced approximately 50%)

**OP95F1S-37-R2-00** Single-channel Filter (for DWDM Channel 37) in Ruggedized Package

**OP95F1S-29-N0-00** Single-channel Filter (for DWDM Channel 29) in Non-ruggedized Tube
ORDERING INFORMATION

Single-channel DWDM Filter

** = DWDM ITU Grid Channel Number (20, 21, 22, 23, 25, . . . or 59)
(Reference ARRIS DWDM ITU Grid Channel Plan Data Sheet)

*** = Package, Fiber Jacket Options and Connectorized Options:
N0-00 = 1 m pigtails of 250 µm bare fiber in 3x55 mm Non-ruggedized Tube,
R2-00 = 1 m pigtails of 2 mm buffered fiber in 8.5x14x98 mm Ruggedized Package,
R2-AS = 1 m pigtails of 2 mm fiber in 9.2x51x89 mm Ruggedized Package with SC/APC connectors

RELATED PRODUCTS

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Customer Care

Contact Customer Care for product information and sales:
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• International: +1-678-473-5656