

Product Bulletin



ACIS1 Series Integrated Taps/ Single-Stage Isolators

The ACIS1 Series hybrid components are high-performance optical assemblies that combine the functions of an optical monitor and a polarization insensitive single-stage isolator into a single compact package. By integrating these functions, these components reduce the overall insertion loss while maintaining full optical performance through the elimination of unnecessary splicing and coupling to the fibers. Their excellent characteristics make them highly suitable for laboratory and field applications.

These components are configured with Corning SMF-28 fibers.

L-band hybrid components are also available.

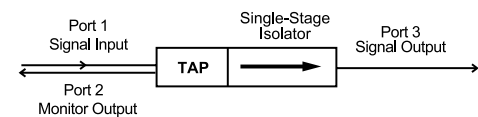
Key Features

- Integrated design for forward monitoring
- Miniature package
- Typical losses of 0.6 dB (signal)
- High isolation over full temperature and wavelength ranges
- Excellent monitor tracking and low wavelength ripple, polarization dependent loss (PDL), and polarization mode dispersion (PMD)
- Designed for stable and highly reliable performance

Applications

- Compact erbium doped fiber amplifier (EDFA) modules
- Forward monitor designs

Configuration



Ports 1, 2, 3: Corning SMF-28

Qualification and Reliability Tests

| Type of Test | Conditions | Duration |
|------------------------------|---------------------------|-------------------|
| Damp heat | 85 °C and 85% RH | 2500 hours |
| High temperature storage | 85 °C | 2500 hours |
| Low temperature storage | -40 °C | 2500 hours |
| Temperature cycling | -40 to 75 °C | 500 cycles |
| Temperature humidity cycling | -40 to 75 °C, 90% RH | 5 cycles |
| Water immersion | 43 °C | 340 hours |
| Vibration | 10-2000-10 Hz | 12 cycles x 3axis |
| Impact | 500 G, 8 impacts x 3 axis | 5 cycles |
| Cable retention | 0.5 kg for 1 minute | 3 pulls/fiber |

Specifications

| Parameter | | | Premium Grade | Standard Grade |
|-----------------------------|------------------------------|---------|----------------------------------|----------------|
| Model | | | ACIS1+1P | ACIS1+1S |
| Signal wavelength | λ | | 1530 to 1563 nm | |
| Insertion loss ¹ | 1→3 over λ | typical | 0.5 dB | 0.7 dB |
| | | maximum | 0.8 dB | 1.0 dB |
| Isolation | 1→2 over λ | typical | 17.8 ±1.0 dB | 17.8 ±1.0 dB |
| | | minimum | | |
| Directivity ² | 3→1 over λ and 23 °C | typical | 40 dB (peak) | 35 dB (peak) |
| | | minimum | 30 dB | 28 dB |
| Return loss | 2→3 over λ | minimum | 60 dB | 60 dB |
| | | minimum | 60 dB | 60 dB |
| Wavelength flatness | 3→2 over λ | minimum | 60 dB | 60 dB |
| | | minimum | 60 dB | 60 dB |
| Wavelength ripple | all ports | minimum | 55 dB | 50 dB |
| | | minimum | 55 dB | 50 dB |
| Polarization dependent loss | 1→3 over λ | maximum | 0.15 dB | 0.15 dB |
| | | maximum | 0.5 dB | 0.5 dB |
| PMD | 1→3 over λ | maximum | 0.03 dB | 0.03 dB |
| | | maximum | 0.1 dB | 0.1 dB |
| Maximum optical power | 1→2 over λ | typical | 0.05 dB | 0.07 dB |
| | | maximum | 0.1 dB | 0.15 dB |
| Fiber type | 1→2 over λ | typical | 0.05 dB | 0.05 dB |
| | | maximum | 0.05 dB | 0.05 dB |
| Dimensions | 1→3 over λ | maximum | 0.03 ps | 0.03 ps |
| | | maximum | 0.03 ps | 0.03 ps |
| Operating temperature | | | 300 mW | |
| Storage temperature | | | 9/125/250 μ m Corning SMF-28 | |
| | | | 5.5 x 39.0 mm | |
| | | | 0 to 60 °C | |
| | | | -40 to 85 °C | |

1. Measured without connectors.

2. With output port terminated.

Note: These specifications are applicable over the operating temperature range unless otherwise specified.

Ordering Information

Indicate your requirements by selecting one option from each configuration table. Please print the corresponding codes in the available boxes to form your part number. For more information on this or other products and their availability, please contact your local JDS Uniphase sales representative or JDS Uniphase directly at 613 727-1303, or by fax 613 727-8284, or via email at sales@ca.jdsunph.com, or visit our Web site at www.jdsunph.com.

Sample: ACIS1+1S1.0NC

| Code | Grade | Code | Typical Fiber Length (all ports) | Code | Connector Type (all ports) |
|------|----------|------|----------------------------------|------|----------------------------|
| S | Standard | 0.5 | 0.5 meter | NC | No connector ¹ |
| P | Premium | 1.0 | 1.0 meter ¹ | FP | FC/PC |
| | | 1.5 | 1.5 meters | FA | FC/APC |
| | | 2.0 | 2.0 meters | SC | SC/PC |
| | | | | SU | SC/APC |
| | | | | SP | ST/PC |

1. Standard.

SMF-28 is a registered trademark of Corning Incorporated.



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