

# 1310nm 3 Port Polarization Insensitive Optical Circulator (CIR)

## Features

Compact Package  
High Isolation & Low Insertion Loss  
Low PDL  
Telcordia GR-1221 Compliant

## Application

EDFA, DWDM and OTDR  
DWDM and OADM Networks  
Bi-directional Transmission System  
Testing Equipment



## Specifications

| Parameters                                             | Unit | 3 Port, P1 → P2 → P3, P3 → P1 |
|--------------------------------------------------------|------|-------------------------------|
| Operating Wavelength ( $\lambda_{op}$ )                | nm   | 1310±30                       |
| Peak isolation                                         | dB   | 52                            |
| Isolation ( $\lambda_c$ , 23°C all sop) <sup>[1]</sup> | dB   | ≥40                           |
| Isolation ( $\lambda_{op}$ , Top, all sop)             | dB   | ≥35                           |
| Insertion Loss ( $\lambda_{op}$ , 23°C all sop)        | dB   | ≤0.8 (Typ. 0.6)               |
| Polarization Dependent Loss (PDL)                      | dB   | ≤0.20                         |
| PMD                                                    | ps   | ≤0.1                          |
| Directivity (DIR) <sup>[2]</sup>                       | dB   | ≥50                           |
| Return Loss (RL)                                       | dB   | ≥50                           |
| Max Power Handling CW <sup>[3]</sup>                   | mW   | 500                           |
| Fiber Type                                             |      | SMF-28e                       |
| Operating Temperature                                  | °C   | 0 ~ +75                       |
| Storage Temperature                                    | °C   | -40 ~ +85                     |

Above data test at room temperature without connectors. With connectors, IL+0.3dB, RL-5dB.

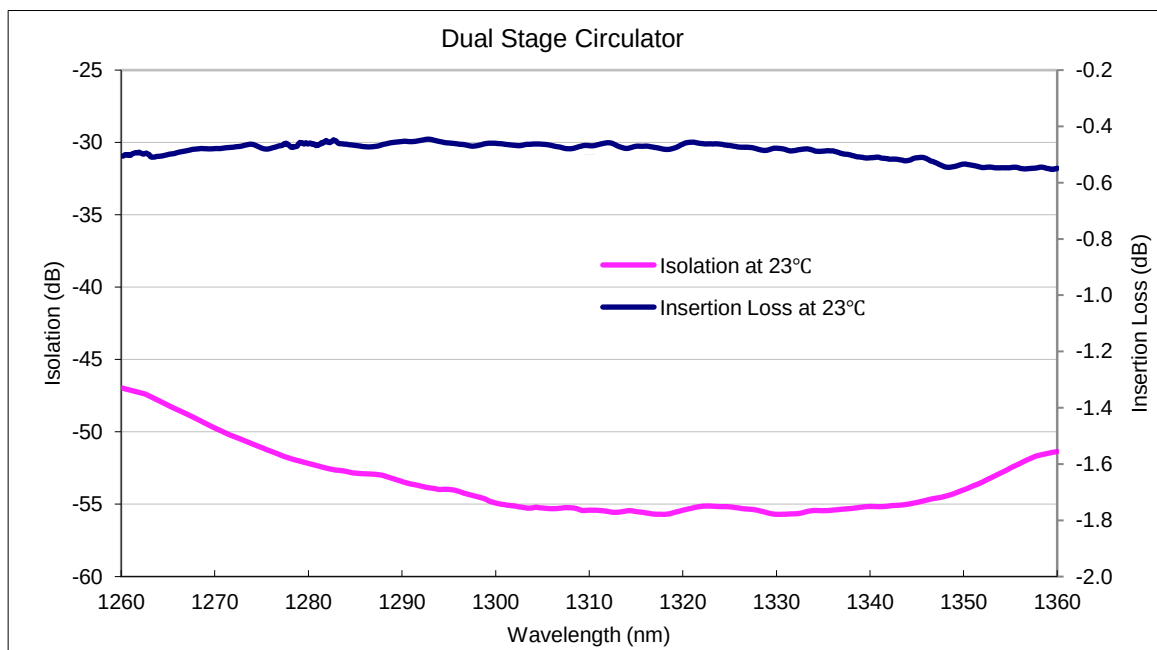
<sup>[1]</sup> all sop=all state of polarization.

<sup>[2]</sup>  $DIR = 10 * \log_{10} (P_{P3} / P_{P1})$ , test light input from P1, P=power in mW, test light input from P1.

While test DIR, coil P2 fibers 3-5 turns around a 10-30mm diameter loop, this prevents back reflections into output P3, which would significantly lower DIR. If connector is needed at P3, an Angle polished (APC) connector will be recommended.

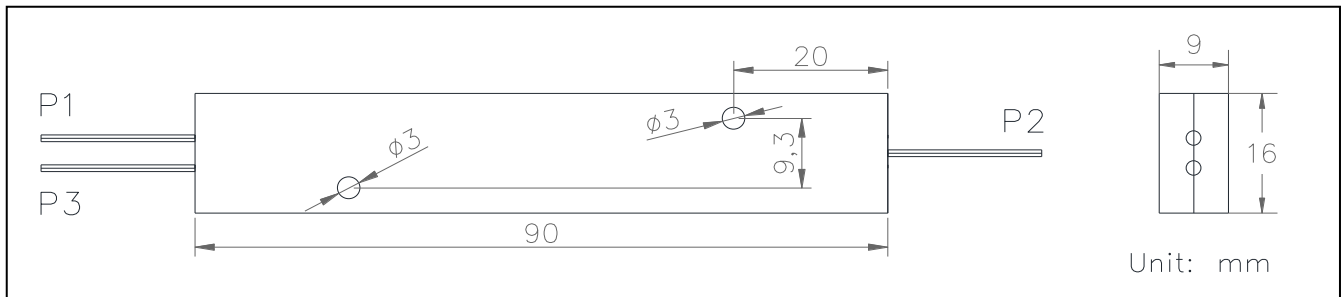
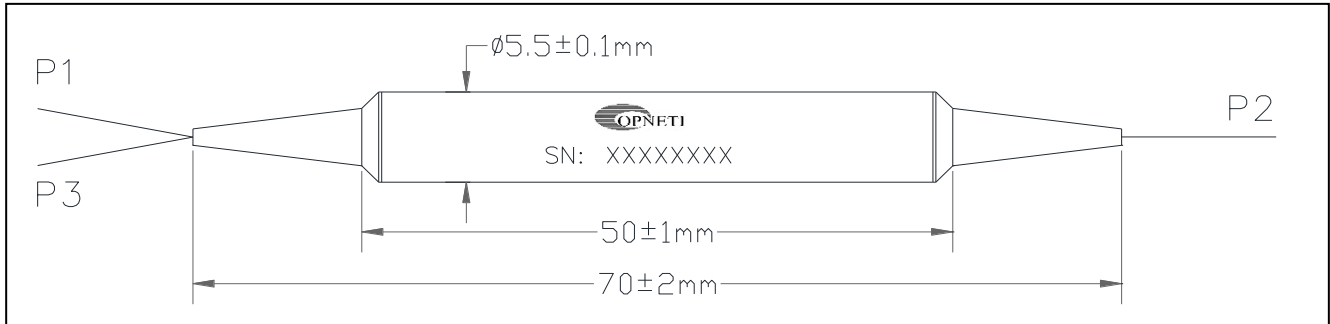
<sup>[3]</sup> Higher power available on request.

## Typical Spectrum



### Package Information

|                   |                            |                           |                     |
|-------------------|----------------------------|---------------------------|---------------------|
| Fiber Length      | 1m, others on request      |                           |                     |
| Pigtail Type      | 250μm Bare Fiber           | 900μm Loose Tube          | 2mm/3mm Loose Cable |
| Dimensions(mm)    | φ4.8x29, φ5.5x38, φ5.5x50, | φ5.5x38, φ5.5x50, 90x16x9 | 90x16x9             |
| Approx Weight (g) | 35                         | 50                        | 65                  |



### Ordering Information

CIR- ①-②-③③③③-④④④-⑤-⑥-⑦⑦-⑧⑧⑧⑧⑧⑧

|   |              |                                                                                    |
|---|--------------|------------------------------------------------------------------------------------|
| ① | Type         | 3=3 Port;                                                                          |
| ② | Grade        | P=P Grade;                                                                         |
| ③ | Wavelength   | 1310;                                                                              |
| ④ | Pigtail Type | 250=250μm Fiber; 900=900μm Loose Tube; 2000=2mm Loose Cable; 3000=3mm Loose Cable; |
| ⑤ | Fiber Type   | 1=SMF-28e;                                                                         |
| ⑥ | Fiber Length | 1=1m; XX=other;                                                                    |
| ⑦ | Connector    | NE=None; FA=FC/APC; FC=FC/UPC; SA=SC/APC; SC=SC/UPC; LC=LC/UPC; XX=Others;         |
| ⑧ | Package size | 4.8x29; 5.5x38; 5.5x50; 90x16x9;                                                   |