Polarization-insensitive Circulator

Key Features

- **Very low insertion loss**
- **Broadband**
- **Low wavelength dependent loss**
- **Low temperature dependent loss**
- **High-power handling capability and reliability**
- **High isolation**
- **Compact cylindrical package**
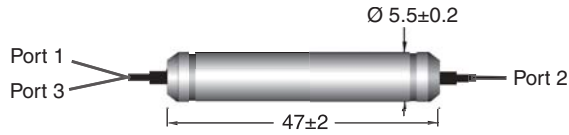- **Excellent environment stability**

Applications

- Fiber amplifier systems
- Wavelength division multiplexing (WDM) add/drop
- WDM networks
- Bidirectional transmission systems
- Optical time domain reflectometer (OTDR) and sensing systems

The JDSU polarization-insensitive fiberoptic circulator is a compact, patented, high-performance lightwave component that routes incoming signals from Port 1 to Port 2, and incoming Port 2 signals to Port 3. This component provides high isolation, very low insertion loss, low polarization dependent loss (PDL), low polarization mode dispersion (PMD), and excellent environmental stability.

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Dimensions Diagram
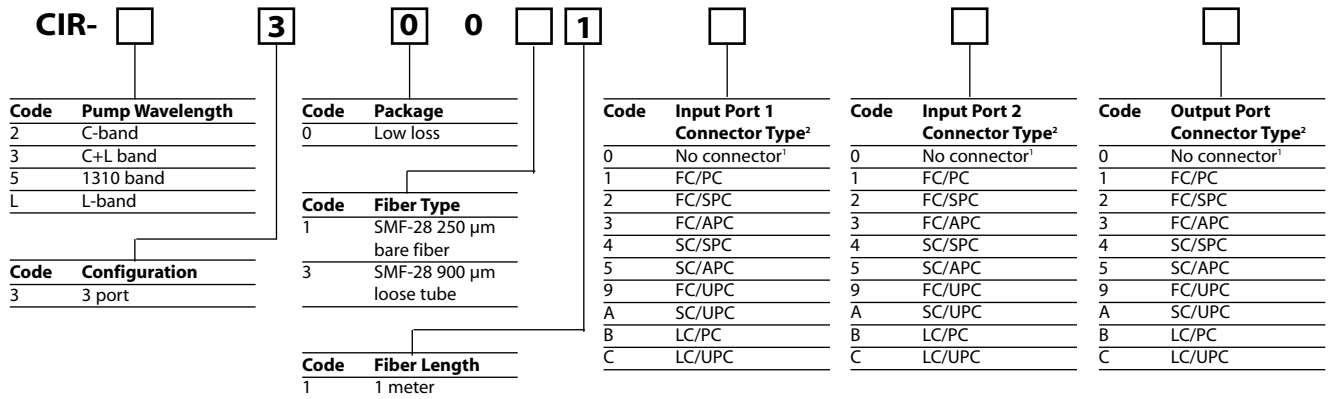
(Specifications in mm unless otherwise noted.)

Ø 5.5±0.2

Port 1
Port 3

Port 2

47±2

Specifications

Parameter		C band	L band	C+L band	1310 nm band
Signal central wavelength λ_C		1530 to 1570 nm	1570 to 1620 nm	1520 to 1620 nm	1295 to 1325 nm
Insertion loss (over temperature and wavelength, SOP)	Maximum	0.6 dB	0.6 dB	0.9 dB	0.9 dB
Peak isolation			55 dB		
Isolation (over temperature and wavelength range, SOP)	Minimum	35 dB	35 dB	28 dB	28 dB
Temperature dependent loss	Typical		0.05 dB		
Directivity (Port 1→3, Port 3→1)	Minimum		50 dB		
Polarization dependent loss	Typical		0.05 dB		
	Maximum		0.12 dB		
Polarization mode dispersion	Typical		0.05 ps		
	Maximum		0.1 ps		
Optical return loss (all ports)	Minimum		50 dB		
Operating temperature			0 to 60°C		
Storage temperature			-40 to 85°C		
Input optical power	Maximum		500 mW		
Tensile load	Maximum		5 N		
Package dimensions (D x L)			5.5±0.1 x 47±2 mm		
Device marking			JDSU logo, JDSU model name and device serial number		
Fiber color code			Input port 1: black; input port 2 and output port 3: natural		

Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide, or via e-mail at customer.service@jdsu.com.

Sample: CIR-330011000

CIR- ☐ 3 0 0 ☐ 1 ☐ ☐ ☐

Code	Pump Wavelength
2	C-band
3	C+L band
5	1310 band
L	L-band

Code	Configuration
3	3 port

Code	Package
0	Low loss

Code	Fiber Type
1	SMF-28 250 µm bare fiber
3	SMF-28 900 µm loose tube

Code	Fiber Length
1	1 meter

Code	Input Port 1 Connector Type[2]
0	No connector[1]
1	FC/PC
2	FC/SPC
3	FC/APC
4	SC/SPC
5	SC/APC
9	FC/UPC
A	SC/UPC
B	LC/PC
C	LC/UPC

Code	Input Port 2 Connector Type[2]
0	No connector[1]
1	FC/PC
2	FC/SPC
3	FC/APC
4	SC/SPC
5	SC/APC
9	FC/UPC
A	SC/UPC
B	LC/PC
C	LC/UPC

Code	Output Port Connector Type[2]
0	No connector[1]
1	FC/PC
2	FC/SPC
3	FC/APC
4	SC/SPC
5	SC/APC
9	FC/UPC
A	SC/UPC
B	LC/PC
C	LC/UPC

1. Standard.
2. Insertion loss, extinction ratio, and return loss depend on connector type.