

CHAPTERS

- Laser Scanning Microscopy
- Microscopy Components
- OCT Imaging Systems

OCT Components

- Adaptive Optics

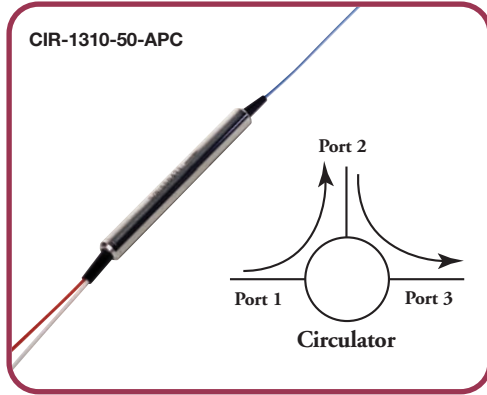
SECTIONS

- Light Source
- Balanced Detectors
- Interferometers
- Fiber Components
- Polarization Controller
- Scanning Mirrors

Optics

- Resolution Targets

## OCT-Proven Broadband Circulator



### Features

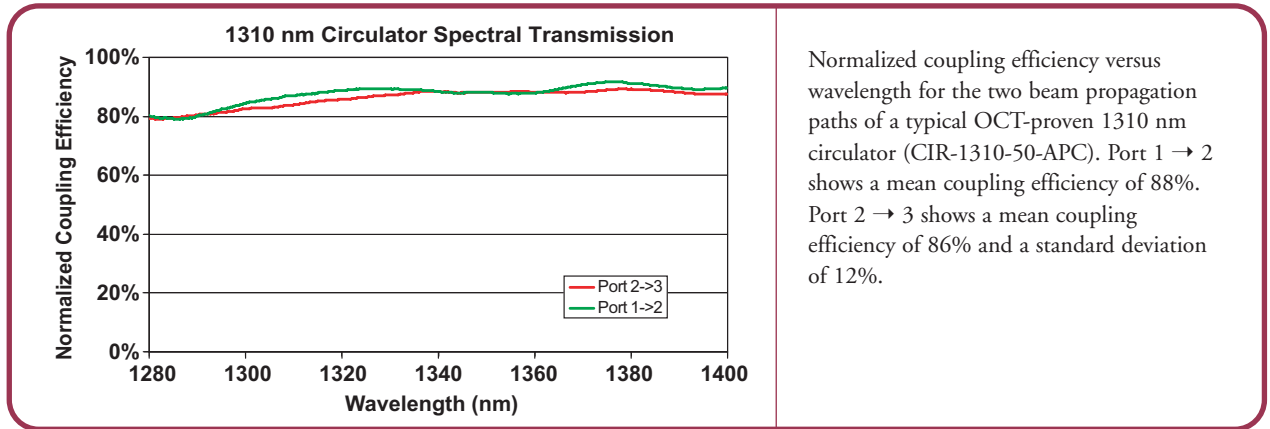
- Polarization Independent
- Broadband Operating Wavelength Range (1280 - 1400 nm)
- <1.6 dB Insertion Loss
- 1 m Single Mode (SMF-28e+) Fiber with FC/APC Connectors
- Ø900 µm Loose Protective Jacket
- Customized Fiber Length and Connectorization Available

### SPECIFICATIONS

Wavelength Range	1280 – 1400 nm
Isolation	>28 dB
Insertion Loss	<1.6 dB
Directivity (Port 1 → 3)	50 dB
Return Loss	45 dB
Polarization-Dependent Loss	<0.2 dB
Polarization Mode Dispersion	<0.05 ps
Max Optical Power	500 mW
Operating Temperature	0 to 70 °C
Storage Temperature	-40 to 85 °C
Fiber Type	SMF-28e+
Pigtail Type and Length	Ø900 µm Loose Tube, 1.0 ± 0.1 m
Connector	FC/APC (Angled) for Each Port

Fiber Optic Circulators, such as the CIR-1310-50-APC, guide light from the input fiber (Port 1) to the output fiber (Port 2). Light returning through the output fiber is redirected to a third fiber (Port 3) with virtually no loss. The circulator isolates the input source (Port 1) from light returning from Port 2.

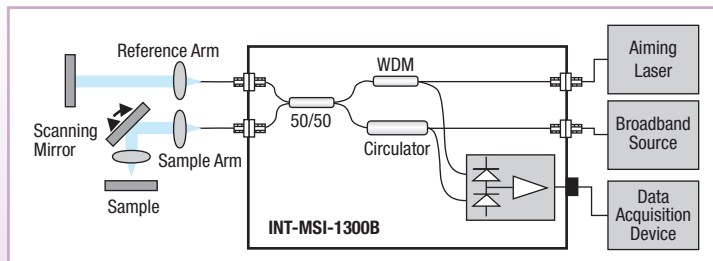
Each OCT-Proven Broadband Circulator has been tested for optimal application in OCT imaging system designs. An important consideration in the design of an OCT system is the flat spectral response of the components in the system. The CIR-1310-50-APC was chosen as an OCT-proven broadband circulator because of its flat spectral response over its operating range.



Normalized coupling efficiency versus wavelength for the two beam propagation paths of a typical OCT-proven 1310 nm circulator (CIR-1310-50-APC). Port 1 → 2 shows a mean coupling efficiency of 88%. Port 2 → 3 shows a mean coupling efficiency of 86% and a standard deviation of 12%.

ITEM #	\$	£	€	RMB	DESCRIPTION
CIR-1310-50-APC	\$ 700.00	£ 504.00	€ 609.00	¥ 5,579.00	Broadband Fiber Circulator, 1280-1400 nm

## Integrated Detection Modules



Schematic of a swept source OCT imaging system. A key component in the imaging system is the INT-MSI-1300B Michelson-Type Interferometer (see page 1770), which utilizes a CIR-1310-50-APC. In the interferometer, the circulator guides the light emitted by the broadband light source into the sample and reference arms of the OCT system. The light returning from the sample and reference arms is then guided to the detector.