High Performance
Optical Component Solutions
DATASHEET

High Reliability Optical Circulator

Key Features

Compact in-line configuration

High isolation

Low Loss

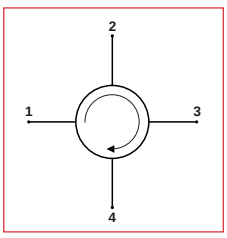
Low PDL

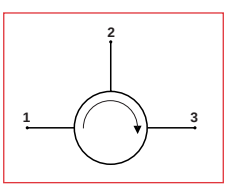
PMD Free

Proven hermetic package design

Qualified to Telcordia GR1221

Functional Diagram

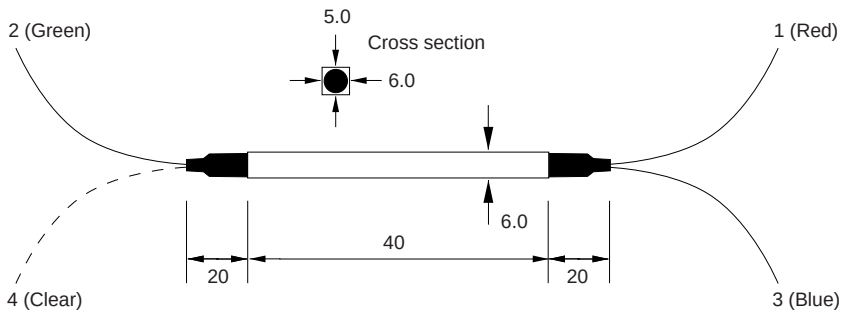




Description

Optical circulators are passive, multi-port, non-reciprocal optical devices that utilise the Faraday effect to route light from port 1 to port 2, port 2 to port 3, etc. The HRC uses a micro-optic two-stage Faraday rotator design with short optical path lengths to achieve benchmark optical performance with high environmental stability. Our innovative approach gives low polarisation dependence and PMD, with low insertion loss and high isolation over extended temperature and wavelength ranges.

Outline Diagram



Dimensions in mm

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High Reliability Optical Circulator

Characteristics

	C Band	L Band
Peak Isolation (2-1, 3-2 and 4-3)	> 50dB	> 50dB
Isolation over operating λ range	> 45dB	> 45dB
Isolation (T=0 to 70°C)	> 40dB	> 40dB
Directivity (port 1-3 and 2-4)	> 55dB	> 55dB
Return Loss	> 50dB	> 50dB
Insertion Loss	< 0.9dB (0.6dB typ)	< 1.0dB (0.7dB typ)
Polarisation Dependent Loss	< 0.15dB (0.05dB typ)	< 0.15dB (0.05dB typ)
Polarisation Mode Dispersion	< 0.05ps	< 0.05ps
Operating Wavelength	1525 - 1565nm	1570 - 1605nm

Device Ordering Information

HRC-[operating wavelength]-**Q**[number of ports]-**101**[connector]

1550 for C Band	**3**	**0** No Connector
1590 for L Band	**4**	**1** FC/SPC
		2 SC/SPC
		3 FC/APC
		4 SC/APC

E.g. **HRC-1550-Q4-1014** is a 4 port, C Band circulator with SC/APC connectors

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