

CrystaLatch™ Bypassable Optical Circulator

(Protected by U.S. patents 7224860, 6757101, 6577430 and pending patents)

Product Description

The CL Series bypassable Optical circulator works in either circulator mode or bypass mode. In the circulator mode, it works as a regular 3 port circulator, light entering port 1 passes out through port 2, and light entering port 2 passes out through port 3. In the bypass mode, light entering port 1 will output through port 3 bypassing port 2. Switching between these two working modes is activated via an electrical control signal. This is achieved using patent pending non-mechanical configurations, which also features Latching operation that preserves the selected working mode after the drive signal is removed. The all solid state bypassable circulator features low insertion loss, high channel isolation, fast switching speed and extremely high reliability and repeatability.



Performance Specifications

Parameter ¹	Min	Typical	Max	Unit
Operation Wavelength	1520	1550	1570	nm
Insertion Loss		0.8	1.2	dB
Isolation	40	50		dB
Directivity	40	50		dB
Switch Speed (rise, fall)	20	50	200	µs
Repetition Rate			5K	Hz
Polarization Dependent Loss		0.1	0.2	dB
Polarization Mode Dispersion			0.2	ps
Return Loss	50			dB
Operating Temperature	0		70	°C
Optical Power Handling		300	500 ²	mW
Storage Temperature	-40		85	°C
Fiber Type	Corning SMF28 or equivalent			
Package Dimension	(L)61.5x(W)8.4x(H)8.4 mm			

1. Measured without connectors

2. High power version available.

Features

- Solid-State High Speed
- Low Insertion Loss
- High Isolation
- Fail-Safe Latching
- Non-Mechanical
- Compact & Rugged
- Direct Low Voltage Drive

Applications

- Optical Signal Routing
- PMD compensation
- Network Protection/Restoration
- Burst Switching
- Configurable Add/Drop
- Signal Monitoring
- Instrumentation

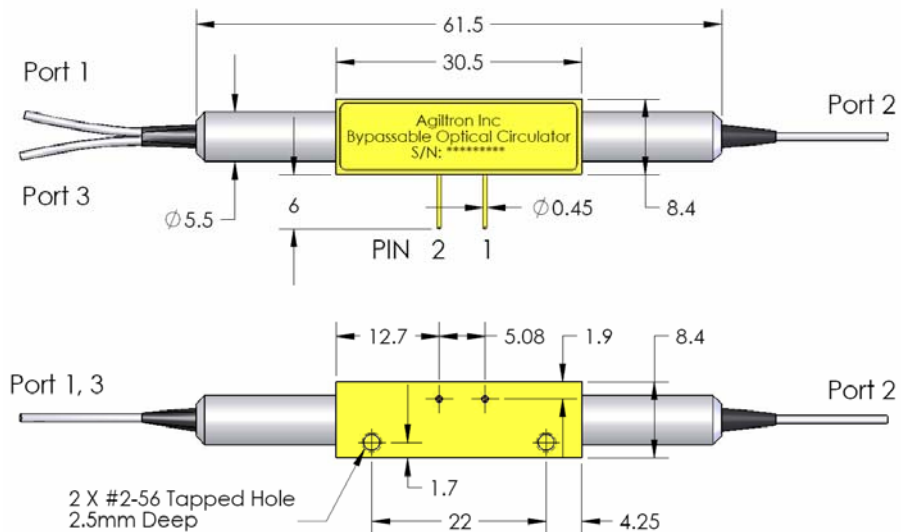
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Electrical Driving Information

Working Mode	Pin 1		Pin 2	
Circulator (Port 1->2->3)	+5V Pulse		GND	
Bypass (Port 1->3)	GND		+5V Pulse	
Electrical Parameter	Minimum	Typical	Maximum	Unit
Pulse Voltage	5		6	V
Pulse Duration	0.1		10	ms
Device Resistance	31	35	42	Ω

Driving kit with RS232 and TTL interfaces and Windows™ GUI is available.

Mechanical Footprint Dimensions (mm)



Ordering Information

CLBC-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type	Wavelength	Switch	Package	Fiber Type	Fiber Length	Connector		
3 port = C3	1550nm = 5	Dual stage = 2	Standard = 1	SMF28 = 1	Bare fiber=1 900um loose tube=3	0.25m=1 0.5m=2 1.0m=3 Special=0	None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC=7 Duplex LC=8 Special=0	

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