# Single Channel Coarse Wavelength Division Multiplexer



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DATASHEET

#### **Features**

- High Channel Isolation
- Low Insertion Loss
- Highly Stable & Reliable
- Epoxy-Free Optical Path
- Low Profile Packaging

# Agiltron's Wavelength Division Multiplexer (WDM) is based on thin film filter technology. This proven technology offers wide channel bandwidth, flexible channel configuration, low insertion loss, and high isolation. The CWDM series devices are used to add or drop a particular wavelength and are ideal for telecommunications and networking. Agiltron's CWDM devices are Bellcore GR -1221 qualification tested and are epoxy-free in the optical path.

## **Specifications**

Parameter		Min	Typical	Мах	Unit
Operating Wavelength		1470		1610	nm
Center Wavelength Accuracy			± 0.5		nm
Channel Spacing			20		GHz
Channel Passband (@-0.5dB bandwidth)			≥13		nm
Pass Channel Insertion Loss			≤ 0.6		dB
Reflection Channel Insertion Loss			≤ 0.4		dB
Channel Ripple			≤ 0.3		dB
	Adjacent		≥ 30		dB
Isolation (Demux)	Non-adjacent		≥ 40		dB
Insertion Loss Temperature Sensitivity			≤ 0.003		dB/°C
Wavelength Temperature Shifting			≤ 0.002		nm/°C
Polarization Dependent Loss			≤ 0.1		dB
Polarization Mode Dispersion			≤ 0.1		ps
Directivity			≥ 50		dB
Return Loss			≥ 45		dB
Power Handling			300		mW
Operating Temperature		-40	300	85	°C
Storage Temperature		-40		85	°C

## **Applications**

- Line Monitoring
- WDM Network
- Telecommunication
- Cellular Application
- Fiber Optical Amplifier
- Access Network

**Note:** The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this <u>link</u>]:

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#### **Mechanical Dimensions**

\*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

## **Ordering Information**

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Prefix	Ch. Spacing	Number of channels	Configuration	ITU Channel	Fiber Cover	Fiber Length	Connector
CWDM-	CWDM Grid = C	1 Channel = 01	Mux = M Demux = D	1510nm = 510 1551nm = 551 1571nm = 571	Bare Fiber = 1 900um Jacket = 2 Special = 0	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/PC = 7 Special = 0

#### **Application Notes**

#### **Fiber Core Alignment**

Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

#### **Fiber Cleanliness**

Fibers with smaller core diameters (<5 µm) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

#### Maximum Optical Input Power

Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the how handling by expanding the core side at the fiber ends.

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