

## Fabry-Perot (F-P) etalon (100GHz finesse: 40)



### ● Product Description

Idealphotonics' Fabry-Perot etalons are based on free-space Fabry-Perot etalons. They provide periodic wavelength comb transmission. They include 2-port transmission type, 3-port transmission/reflection type and 4-port transmission type. The 2-port type provides a transmission spectrum, the 3-port type provides transmission and reflection spectra, and the 4-port type provides a phase delay (when the same signal is input into the two



input ports, there is a phase delay at the two output ports). Our company's Fabry-Perot etalon wavelength can cover the C-band, including single mode and polarization-maintaining fiber. The free-space range (FSR) and finesse (F) of the etalon can be customized according to customer requirements. Widely used in optical communications, fiber grating sensors, and tunable fiber laser.

## ● Product features

Available in X, O, S, C and L bands、 Compact passive package、 Low insertion loss、 SM or PM fiber pigtails、 High optical power handling

## ● Part Number

MP-FPE-1550-2-100-40-SA

## ● Application area

Wavelength lockers、 Wavelength division multiplexing telecommunication networks、 Handheld spectrum analyzers、 Fiber Bragg grating sensing systems、 Tunable filter lasers、 Tunable filters

## ● Core parameters

Center Wavelength	Connector
1550nm	FC/APC

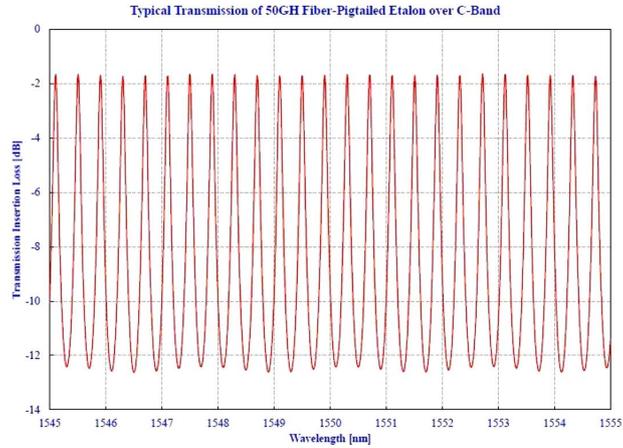
## ● General Parameters

### Parameters

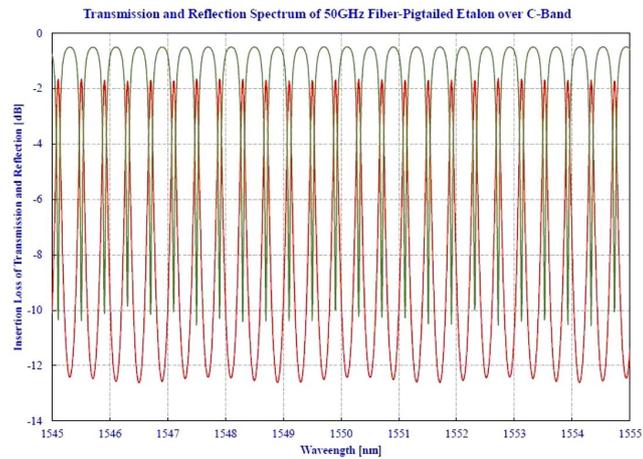
Parameter	Value
Central wavelength	1550nm(customizable)
Spectral width	40nm
Typical FSR	25, 50, 100GHz (customizable)
Typical FSR tolerance	±0.005GHz for 100GHz FSR
Fineness	2.5~40
Insertion loss	<0.8dB
Polarization Dependent Loss (PDL)	<0.15dB
Extinction Ratio (ER)	>20dB (PM Fiber)
Return loss	>45dB
Phase delay	0 to $\lambda/4$ (for 4-port device only)
Maximum input power	500mW (CW)
Operating temperature	10 to 50 °C
Storage temperature	-20 to 75 °C
Dimension	Ø5.5 x 35mm (L) or 40mm (L)



## Spectral shape



## Spectral shape of 2-port pigtail etalon



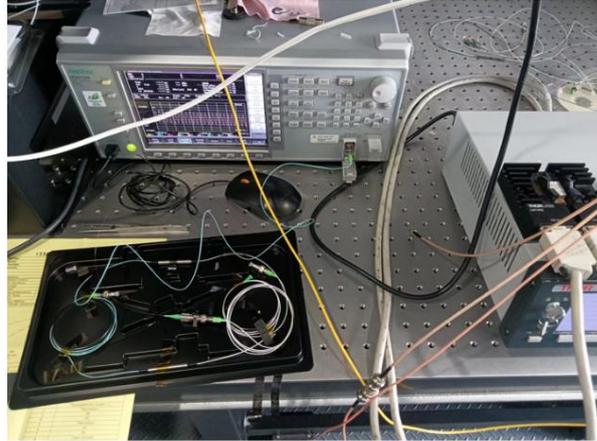
## Spectral shape of 3-port pigtail etalon

Test the frequency discrimination characteristics of the standard at 1572nm

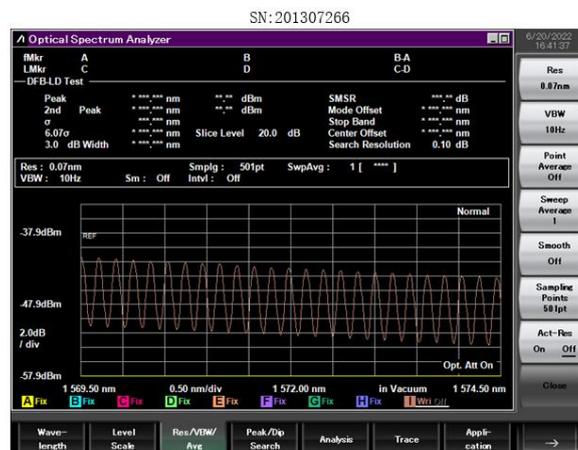
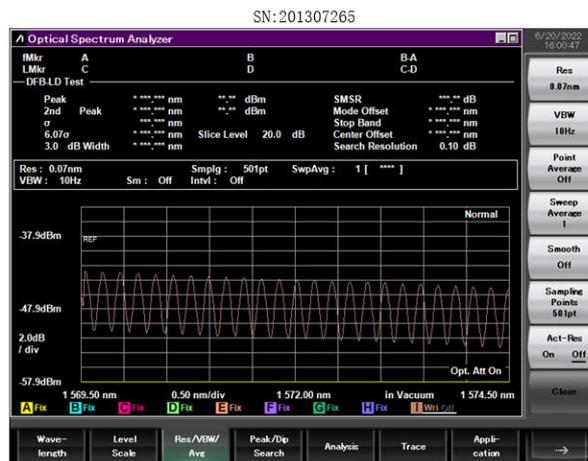
Instruments used: 1550nm SLD, spectrometer, laser driver



### Circuit connection diagram

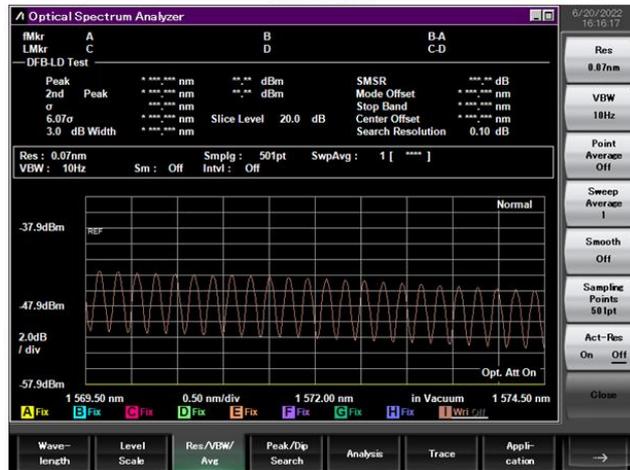


### Spectrometer test results

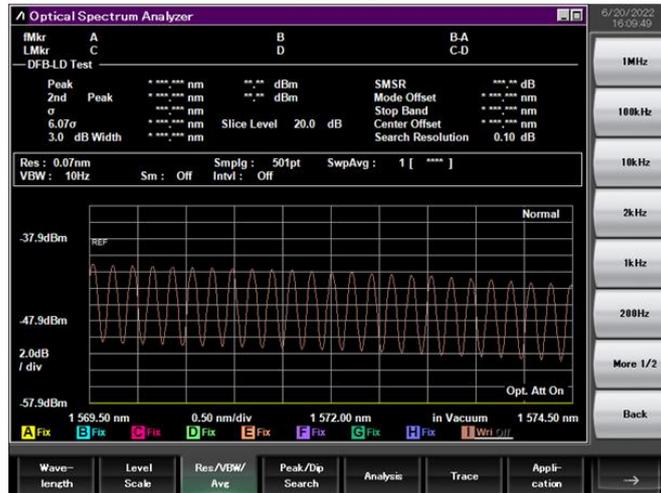




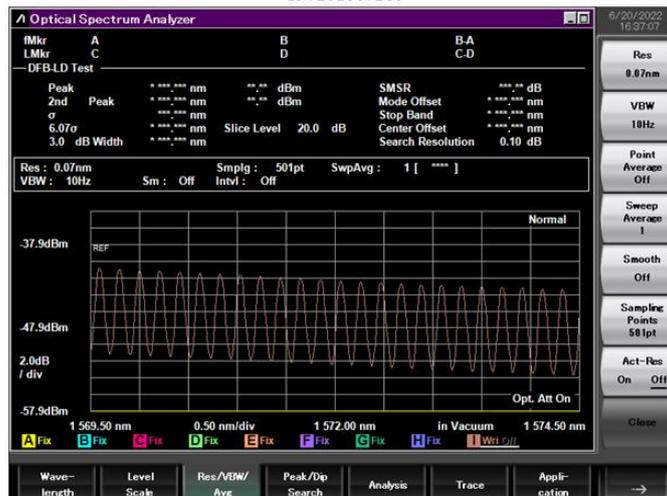
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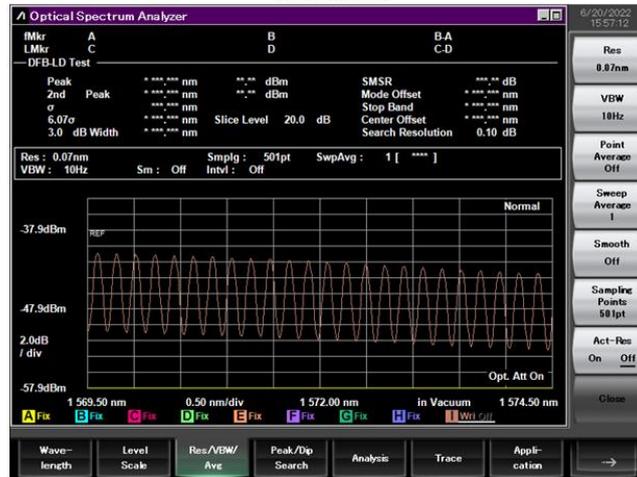


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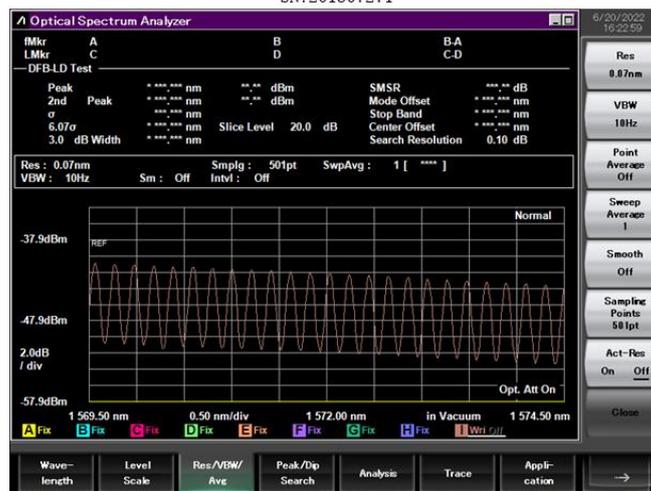




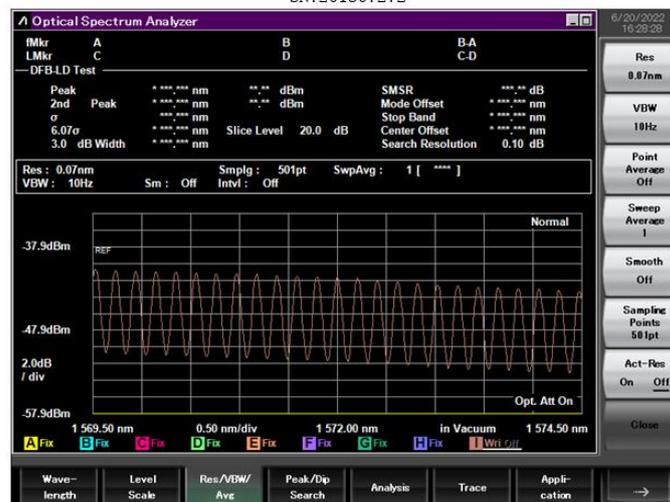
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## Ordering Information

**MP-FPE-A-B-C-D-E-F/G-H/I**

**A: Port type**

**2: 2 Port**

**3: 3 Port**

**4: 4 Port**

**B: Central wavelength**

**1550: 1550nm**

**C : Free space range of etalon in GHz (FSR)**

**25: 25GHz,**

**100: 100GHz.**

**D: Fineness**

**2.5 - 40**

**E: Fiber type**

**SM: Single mode Fiber**

**PM: Polarization-mode Fiber**

**F: Pigtail cable diameter (um)**

**0.9: 0.9um loose tube diameter**

**G: Pigtail length (m)**

**1: 1m**



**H/I: Connector type**

**FC/APC**

**FC/PC**