

Product Bulletin



Fabry-Perot Wavelocker™

The Fabry-Perot Wavelocker™ is a thermally stable etalon-based device used to stabilize laser sources for high-density WDM applications. With both 50 and 100 GHz designs, the Wavelocker™ can stabilize any channel on the 100 GHz ITU grid or 50 GHz offset without temperature compensation. The Fabry-Perot Wavelocker™ has a wide capture capability and excellent ± 2.5 GHz wavelength accuracy. When higher wavelength accuracy is required, a temperature sensor included in the package calibrates out thermal effects.

Key Features

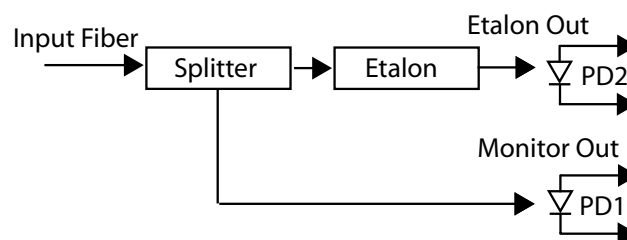
- Extremely low temperature dependence
- High accuracy
- Periodic locking covers all channels
- Optional temperature sensor included

Applications

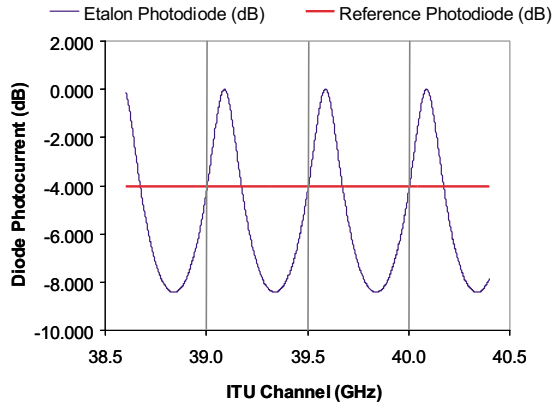
- Precise WDM laser stabilization
- Wavelength monitoring
- Calibration

Compliance

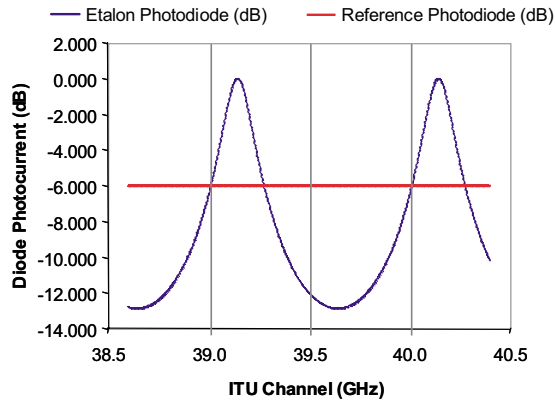
- Telcordia 1221



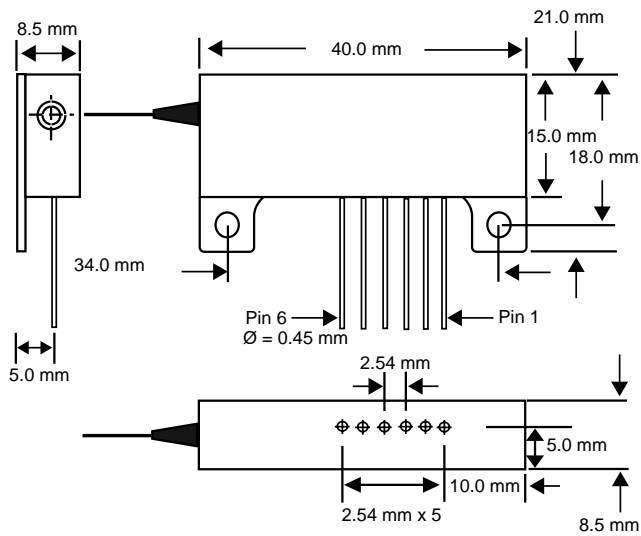
Frequency Response: 50 GHz



Frequency Response: 100 GHz



Package Dimensions



Electrical Pin Selection

Pin	Name
1	Monitor PD1 anode (+)
2	Etalon PD2 anode (+)
3	PD1, PD2 cathode (-)
4	Temperature sensor supply voltage
5	Temperature sensor monitor
6	Temperature sensor ground

Specifications

Parameter	50 GHz	
Wavelength range (ITU - standard)	1520 to 1620 nm	
Center channel accuracy over temperature, pol., and EOL ¹	Max.	±2.5 GHz (±1.25 GHz with temp. monitor)
Polarization dependent channel accuracy	Max.	0.8 GHz
Acquisition range (capture range) from nominal ITU center frequency	Typ.	-30 to 12 GHz
Locking slope at ITU point	Typ.	70 dB/nm
Optical operation power range (P _{in}) ~ input to module	Typ.	-20 to 7 dBm
Optical return loss ²	Min.	50 dB
Optical input power for damage	Min.	100 mW
Photodetector calibration offset	Max.	±2.5 dB
Photocurrent (locker responsivity)	Min.	0.08 A/W
Temperature sensor supply voltage at 130 μA	5 to 30 V	
Temperature sensor monitor	Typ.	10 mV/°C
Package dimensions (W x H x D)	40 x 8.5 x 21 mm	
Electrical pin spacing (center to center)	2.54 mm	
Operating temperature	0 to 70 °C	
Storage temperature	-40 to 85 °C	
Humidity (non-condensing)	0 to 85% RH	

1. Calibrated at ITU channel of use.
2. Connected with a 5% tap coupler.

Ordering Information

Indicate your requirements by selecting one option from each configuration table. Please print the corresponding codes in the available boxes to form your part number. For more information on this or other products and their availability, please contact your local JDS Uniphase sales representative or JDS Uniphase directly at 408 546-5000, or by fax to 408 546-5505, or via e-mail at sales@jdsuniphase.com, or visit our Web site at www.jdsuniphase.com.

Sample: FPWL211501100

<p>FPWL 2 1 150 0 </p> <table border="1"> <thead> <tr> <th>Code</th> <th>Wavelength</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>1550 nm</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Code</th> <th>Fiber Type</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>250 μm fiber (SMF-28)</td> </tr> <tr> <td>4</td> <td>900 μm tight buffer (SMF-28)</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Code</th> <th>Module</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Integrated</td> </tr> </tbody> </table>	Code	Wavelength	2	1550 nm	Code	Fiber Type	1	250 μm fiber (SMF-28)	4	900 μm tight buffer (SMF-28)	Code	Module	1	Integrated	<table border="1"> <thead> <tr> <th>Code</th> <th>Fiber Length</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1 meter</td> </tr> <tr> <td>2</td> <td>2 meters</td> </tr> <tr> <td>3</td> <td>3 meters</td> </tr> </tbody> </table>	Code	Fiber Length	1	1 meter	2	2 meters	3	3 meters	<table border="1"> <thead> <tr> <th>Code</th> <th>Connector²</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>No connector¹</td> </tr> <tr> <td>1</td> <td>FC/PC</td> </tr> <tr> <td>2</td> <td>FC/SPC</td> </tr> <tr> <td>3</td> <td>FC/APC</td> </tr> <tr> <td>4</td> <td>SC/SPC</td> </tr> <tr> <td>5</td> <td>SC/APC</td> </tr> <tr> <td>8</td> <td>ST</td> </tr> <tr> <td>9</td> <td>FC/UPC</td> </tr> <tr> <td>A</td> <td>SC/UPC</td> </tr> <tr> <td>B</td> <td>LC/PC</td> </tr> <tr> <td>C</td> <td>LC/UPC</td> </tr> <tr> <td>D</td> <td>MU</td> </tr> </tbody> </table>	Code	Connector ²	0	No connector ¹	1	FC/PC	2	FC/SPC	3	FC/APC	4	SC/SPC	5	SC/APC	8	ST	9	FC/UPC	A	SC/UPC	B	LC/PC	C	LC/UPC	D	MU
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1. Input connector.
2. Insertion loss and return loss depend on connector type.

Specifications

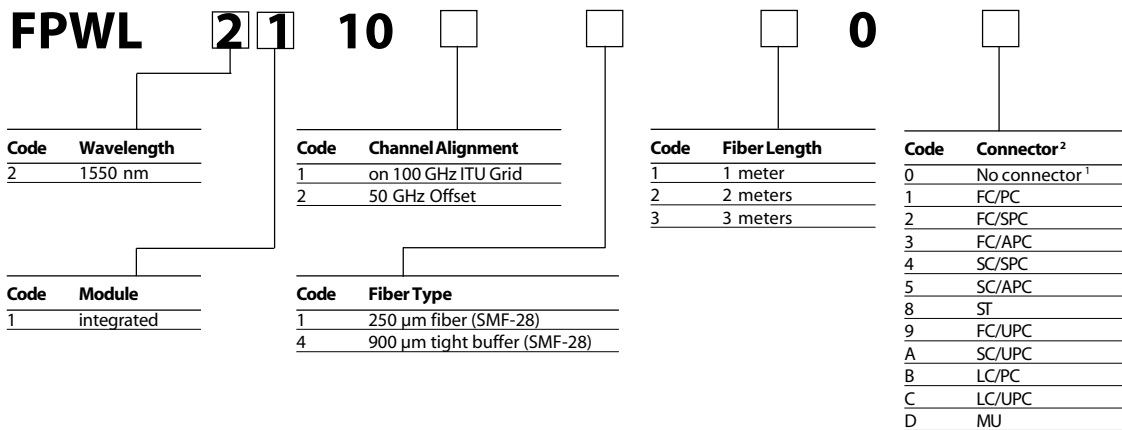
Parameter	100 GHz	
Wavelength range (ITU - standard)	1520 to 1620 nm	
Center channel accuracy over temperature, pol. and EOL ¹	Max.	±2.5 GHz (±1.25 GHz with temp. monitor)
Polarization dependent channel accuracy	Max.	0.8 GHz
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Sample: FPWL211011100



SMF-28 is a registered trademark of Corning Incorporated.
ST is a registered trademark of Lucent Technologies.

- 1. Input connector.
- 2. Insertion loss and return loss change depend on connector type.



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