O-Net
Communications

Smart Optical Component Solutions

www.o-netcom.com

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WAVELENGTH LOCKER

O-Net's wavelength locker is based on athermal Fabry-Perot cavity with 25GHz and/or 50GHz free spectral ratio(FSR). The design is special for a calibrated frequency discriminator for controlling the wavelength of DFB laser to any ITU channel in the C+L band on a 25 GHz or 50GHz grid. The device is compliant to RoHS Directive.

40G/100G APPLICATIONS

Features

- High precision locking accuracy
- Low polarization dependence
- High stability over temperature
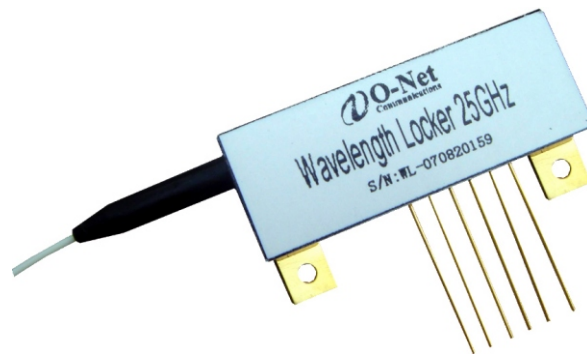
Function Diagram
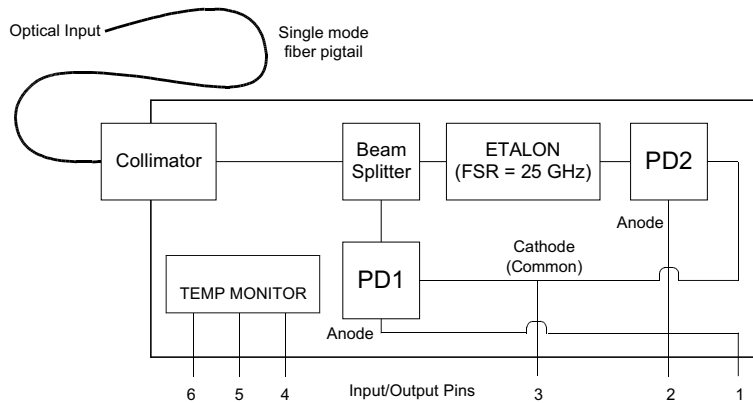
Absolute Maximum Ratings

Absolute Maximum Ratings are those values, beyond which, some damage to the devices may occur to the devices. Exposure to conditions above the Absolute Maximum Ratings listed in the table may negatively impact the reliability of the products.

Parameter		Specification	Unit
Case Storage Temperature		-40~+85	℃
Maximum Optical Power Handling		10	dBm
Fiber Bend Radius	Min	25	mm
Package Lead Soldering (250℃)	Max	10	sec
Fiber Tensile Load (10 sec. Max.)		5	N
ESD threshold (HBM)		500	V

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40G/100G APPLICATIONS

Recommended Operating Conditions

Parameter	Specification	Unit
Case Operating Temperature	-5~+75	℃
Rate of Change of Case Temperature During Operation	25	℃/min
Input Power	-25~+7	dBm
Relative Humidity, at 40℃ non-condensing	5~95	%

Optical & Electrical Specifications

Parameter		Specification		Unit
Channel Spacing		25	50	GHz
Wavelength Range		1520~1620		nm
Central Wavelength		ITU grid		
Central Wavelength Accuracy		+/-1.25	+/-2.5	GHz
Locking Slope at ITU Point		0.58~0.85	0.64	dB/GHz
Polarization Dependent Accuracy	Max	0.4	0.6	GHz
Photodiode Calibration Offset		+/-0.4	+/-0.4	dB
Capture Range[1]		~9	~17	GHz
Return Loss	Max	-45	-45	dB
Responsivity of Reference PD1		0.2-0.4	0.16-0.32	mA/mW
Responsivity of Etalon PD2		0.2-0.4	0.16-0.4	mA/mW
PD Dark Current at 5Vr, 25℃	Max	0.5		nA
Temperature Monitor Supply		4-10		V
Temperature Monitor Output		7-13		mV/℃

1: absolute value of minimum frequency difference between ITU point and adjacent points with same ratio of PD responsivities.

Package Dimensions
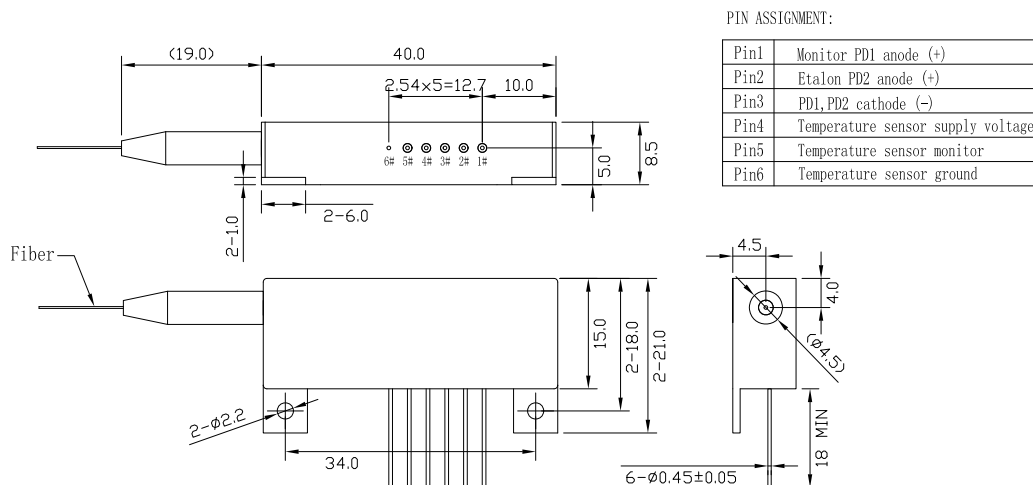
PIN ASSIGNMENT:

Pin1	Monitor PD1 anode (+)
Pin2	Etalon PD2 anode (+)
Pin3	PD1,PD2 cathode (−)
Pin4	Temperature sensor supply voltage
Pin5	Temperature sensor monitor
Pin6	Temperature sensor ground