BW10-1060-T-PxFA-yy

BANDWIDTH10, LTD.

Description:

Bandwidth10's BW10-1060 pigtailed TO is part of a family of wavelength tunable lasers based on the innovative High Contrast Grating (HCG). It is a single mode tunable 1060 nm VCSEL in a 7 pin TO package with permanently attached fiber including a TEC and optical isolator.

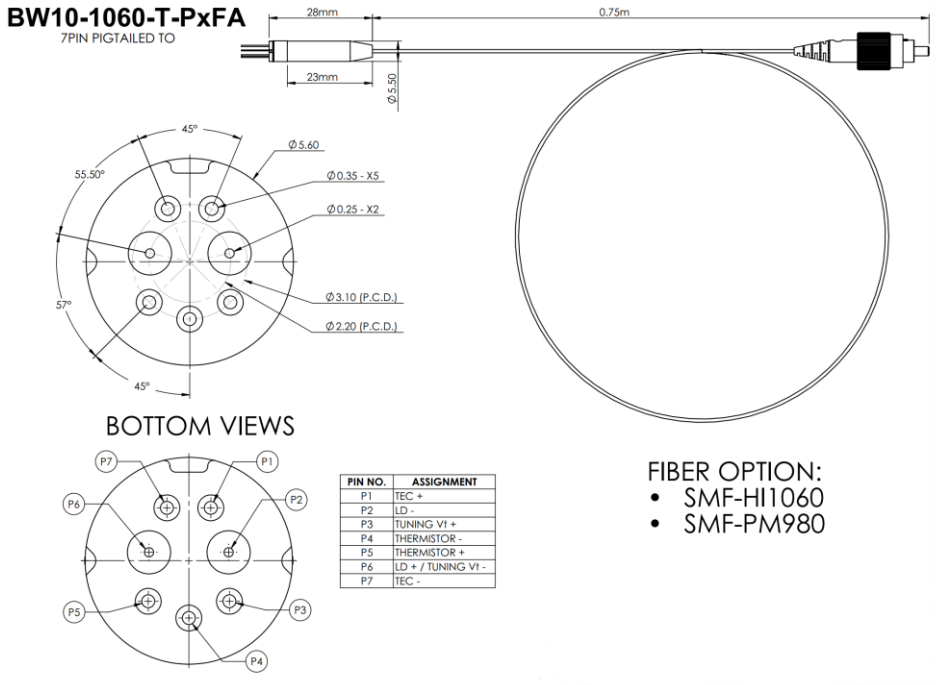
Applications:

- Optical Coherence Tomography (OCT)
- Swept source
- Medical Imaging
- Optical sensing
- Tunable Diode Laser Absorption Spectroscopy (TDLAS)

Features:

- TO-56 7-Pin Small Form Footprint
- Permanently attached 0.75m +-0.1m 900µm fiber pigtail with FC/APC Connector
- Integrated TEC (Temperature Stabilization)
- Integrated optical isolator
- Minimum CW optical power of 0.1 mW @25°C TEC Temperature over tuning range
- Single Mode, VCSEL
- Wavelength Tuning Range: up to 40+ nm
- Fast Wavelength Tuning up to +200 kHz

Dimensional Drawing and Pin Assignment



PIN NO.	ASSIGNMENT
P1	TEC +
P2	LD -
P3	TUNING V1 +
P4	THERMISTOR -
P5	THERMISTOR +
P6	LD + / TUNING V1 -
P7	TEC -

CAUTION: Device is sensitive to electrostatic discharge.

Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Storage Temperature Storage at 70°C is limited due to the foam used in the shipment package. The pigtail TO was qualified for 85°C without package	T_{stg}	-20 to +70	°C
Operating Case Temperature	T_c	-5 to +55	°C
Forward Current of VCSEL	I_{LD}	4 mA	mA
Reverse Current of VCSEL	I_{LDRS}	0	mA
Reverse Voltage of VCSEL	V_{LD}	0	V
Soldering Temperature	T_{sld}	350 (10 sec.)	°C

Operating Conditions

Parameter	Symbol	Values			Unit
		Min	Typical	Max	
Optical Output Power At 25°C TEC temp. over tuning range	P_O	0.1			mW
Operating Current	I_{LD}	0	3.5	See test sheet	mA
Operating TEC Temperature	T_{op}	5	25	30	°C
TEC maximum Current	I_{TEC}		0.35	0.5	A
TEC voltage	V_{TEC}			0.9	V
Guaranteed Start / Red edge wavelength at I_{op} / T_{op} / VT_{start}	λ	1045		1085	nm
Guaranteed tuning range / tuning to blue wavelengths Tuning range is guaranteed for 100KHz or slower. Minimum tuning range is specified in part number: 30 nm: BW10-1060-T-PHxx-30 40 nm: BW10-1060-T-PHxx-40	Δλ	30			nm
		40			
Power difference over Tuning Range	ΔP			10	dB
Polarization Extinction Ratio for PM fiber version (BW10-1060-T-P9FA-yy)	PER	20			dB

Threshold Current over tuning range	I_{th}		1	4.5	mA
Laser Drive Voltage	Vcc	0	3	6	V
Differential Resistance	R_d		500	700	Ω
Maximum Sinusoidal Sweep rate We guarantee the tuning rage if the laser is swept 100kHz or less.	f_{max}	100	200		kHz
Side-mode suppression ratio	SMSR	20			dB
Tuning Voltage	V_{tune}	See test sheet	See test sheet	See test sheet	V
Tuning Current	I_{tune}	0		10	µA
Coherence length Measured with an OCT system, fringes were attenuated by 3dB >10cm of de-tuning.			20		cm
Linewidth Calculated from typical coherence length			470		MHz

Order and Contact Information

Model Number	Contact Information
BW10-1060-T-PHFA-30 30nm pigtailed TO with 0.75m 900µm Hi1060 fiber and FC/APC connector BW10-1060-T-PHFA-40 40nm pigtailed TO with 0.75m 900µm Hi1060 fiber and FC/APC connector BW10-1060-T-P9FA-30 30nm pigtailed TO with 0.75m 900µm PM980 polarization maintaining PANDA fiber. The narrow key FC/APC connector and output signal are aligned to the slow axis. BW10-1060-T-P9FA-40 40nm pigtailed TO with 0.75m 900µm PM980 polarization maintaining PANDA fiber. The narrow key FC/APC connector and output signal are aligned to the slow axis.	Bandwidth 10 Ltd. 2080 Addison Street, Suite 2 Berkeley, CA 94704, USA info@bandwidth10.com