

# 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.

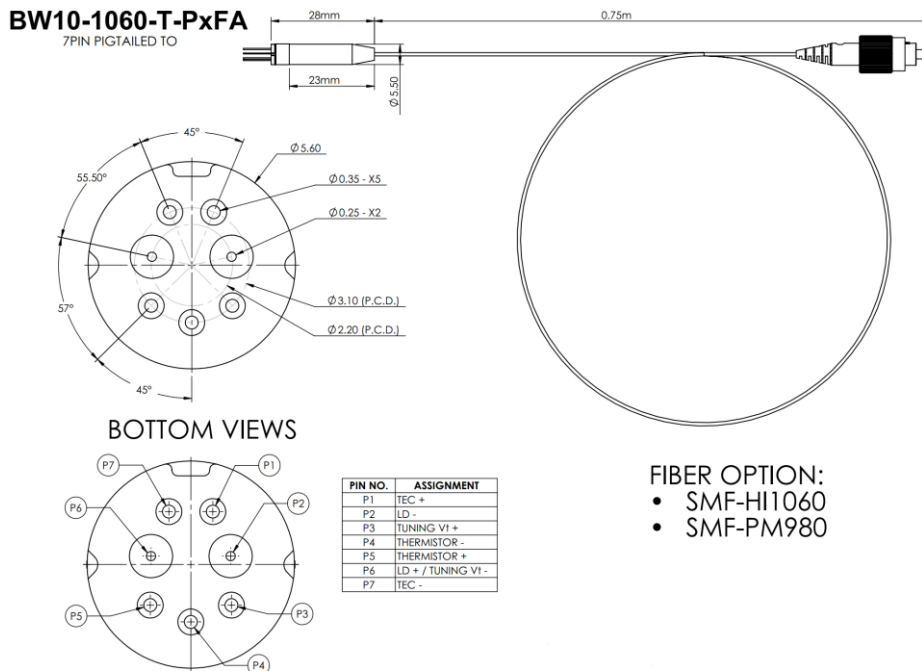
## Applications:

- 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 (30nm and 40nm) / 0.05 mW (50nm) @25°C TEC Temperature over tuning range)
- Single Mode, single lobe VCSEL
- Wavelength Tuning Range: up to 50+ nm
- Fast Wavelength Tuning +200 kHz

## Dimensional Drawing and Pin Assignment



FIBER OPTION:

- SMF-HI1060
- SMF-PM980



**CAUTION:** Device is sensitive to electrostatic discharge.

## Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Storage Temperature	$T_{stg}$	-20 to +100	°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 30 nm and 40 nm tuning range	$P_{O30}$ $P_{O40}$	0.1			mW
Optical Output Power At 25°C TEC temp. over 50 nm tuning range	$P_{O50}$	0.05			mW
Operating Current	$I_{LD}$	0	3.5	4	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
Center wavelength Please specify desired center wavelength in the purchase order	$\lambda$	1030		1070	nm
Guaranteed Tuning Range Minimum tuning range is specified in the part number i.e. 30 nm: BW10-1060-T-PHxx-30 40 nm: BW10-1060-T-PHxx-40 50 nm: BW10-1060-T-PHxx-50	$\Delta\lambda$	30			nm
		40			
		50			
Power difference over Tuning Range	$\Delta P$			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	$V_{cc}$	0	3	6	V
Differential Resistance	$R_d$		500	700	$\Omega$
Mechanical Tuning Response	$f_{max}$	100	200		kHz
Side-mode suppression ratio	SMSR	20			dB
Tuning Voltage	$V_{tune}$	0	See test data		V
Tuning Current	$I_{tune}$	0		0.1	mA

## Order and Contact Information

Model Number	Contact Information
<p><b>BW10-1060-T-PHFA-30</b> 30nm pigtailed TO with 0.75m 900<math>\mu</math>m Hi1060 fiber and FC/APC connector</p> <p><b>BW10-1060-T-PHFA-40</b> 40nm pigtailed TO with 0.75m 900<math>\mu</math>m Hi1060 fiber and FC/APC connector</p> <p><b>BW10-1060-T-PHFA-50</b> 50nm pigtailed TO with 0.75m 900<math>\mu</math>m Hi1060 fiber and FC/APC connector</p> <p><b>BW10-1060-T-P9FA-30</b> 30nm pigtailed TO with 0.75m 900<math>\mu</math>m PM980 polarization maintaining PANDA fiber. The narrow key FC/APC connector and output signal are aligned to the slow axis.</p> <p><b>BW10-1060-T-P9FA-40</b> 40nm pigtailed TO with 0.75m 900<math>\mu</math>m PM980 polarization maintaining PANDA fiber. The narrow key FC/APC connector and output signal are aligned to the slow axis.</p> <p><b>BW10-1060-T-P9FA-50</b> 50nm pigtailed TO with 0.75m 900<math>\mu</math>m PM980 polarization maintaining PANDA fiber. The narrow key FC/APC connector and output signal are aligned to the slow axis.</p>	<p>Bandwidth 10 Ltd. 2080 Addison Street, Suite 2 Berkeley, CA 94704, USA</p> <p><a href="mailto:info@bandwidth10.com">info@bandwidth10.com</a></p>