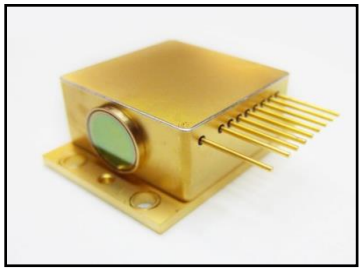
5.26um μm DISTRIBUTED FEEDBACK (DFB) QCL

PART NO: ATO5263-H (HHL-18-76)



HIGH HEAT LOAD (HHL) PACKAGE

FEATURES

- Pulse or CW operated lasers
- Thermo-electrically cooled. External heat sink still required.
- Sensitive to electrostatic discharge, must have standard ESD precautions during handling
- Package dimensions (approx): 44.5 x 31.8 x 18.4 mm (excluding pins)

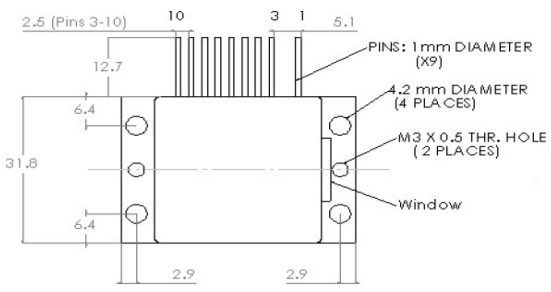
HHL SPECIFICATIONS

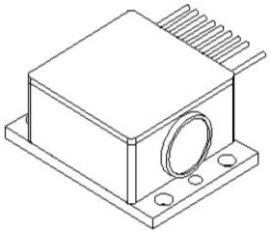
Model No		HHL – xx – xx	HHL –xx – xxLP	HHL –xx – xxHP	Units
TEC Parameters (25 °C)	Imax	7.9	----	----	A
	Vmax	14.4	----	----	V
	Max. Heat Capacity	65.0	----	----	W
	Module Resistance	1.678	----	----	Ω
Temperature Sensor	Type	10.0 kΩ Thermistor			----
	Thermistor Constant	A = 1.129 e^{-3}, B = 2.341 e^{-4}, C = 0.878 e^{-7}			----
Window	Material	ZnSe			----
	Thickness	1			mm
	Diameter	12.7			mm
	Transmission	> 95			%
Lens	Type	Aspheric			----
	Spectral Range	MWIR			----
Weight (approx.)		110.0			g

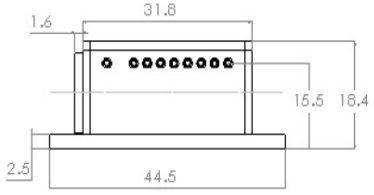
HHL DIMENSIONS

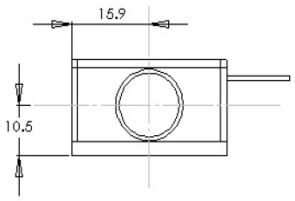
- Dimension: **mm**
- Linear Vertical Beam Polarization

Pin 1 - TEC (**-**)
Pin 2 - Not Installed
Pin 3 - Not Installed
Pin 4 - Laser (**+**)
Pin 5 - Thermistor (**+**)
Pin 6 - Thermistor (**-**)
Pin 7 - Laser (**-**)
Pin 8 - Not Installed
Pin 9 - Not Installed
Pin 10 - TEC (**+**)









18007 Cortney Court City of Industry, CA 91748 T: +1 (626) 956 1000 F: +1 (626) 810 0259 sales@atoptics.com www.atoptics.com

5.26 µm DISTRIBUTED FEEDBACK (DFB) QCL

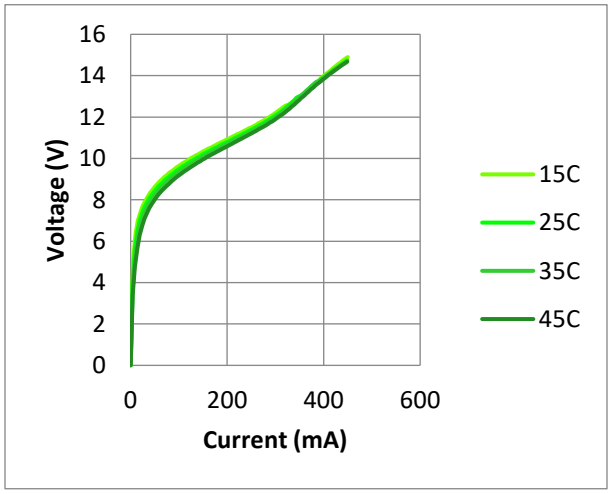
PART NO: ATO5263-H (HHL-18-76)

LASER SPECIFICATIONS

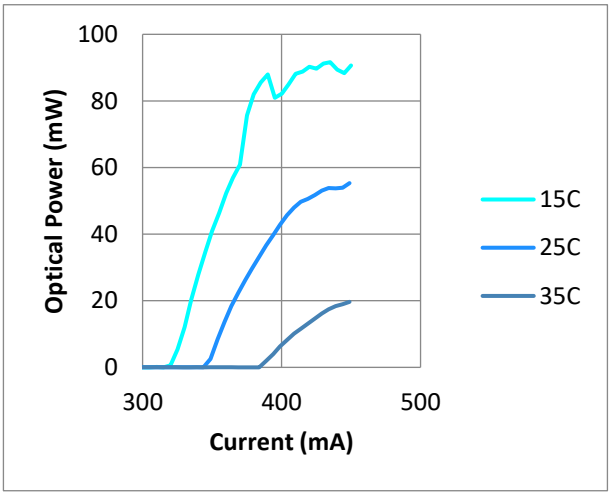
			Measurement Conditions	Specs	Units
Electrical	Operation Mode		-----	CW	-----
	Device Type		-----	DFB	-----
	Oper. Temperature Limits		-----	15- 35	°C
	Max Oper. Currents		@ 15°C	390	mA
			@ 35°C	430	mA
	Max Oper. Voltage		-----	14.7	V
Optical	Thresh. Current		@25°C	350	mA
	Thresh. Voltage		@25°C	12.8	V
	Max. Power Output		@25°C, 395mA	35	mW
	Center Wavelength		@25°C, 395mA	5.262	µm
	Laser Slope Efficiency		@25°C	0.85	%
	Wavelength Tuning	Temperature	-----	0.534	nm/°C
		Current	-----	0.055	nm/mA

DEVICE OPERATIONAL CHARACTERIZATION

V-I curve under CW



L-I curve under CW

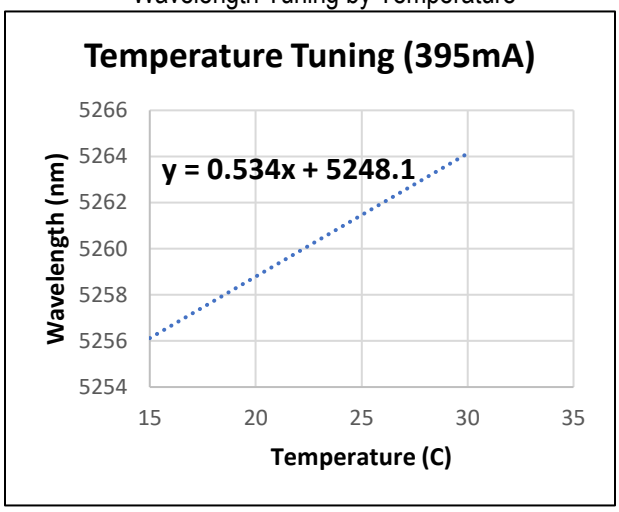


18007 Cortney Court City of Industry, CA 91748 T: +1 (626) 956 1000 F: +1 (626) 810 0259 sales@atoptics.com
www.atoptics.com

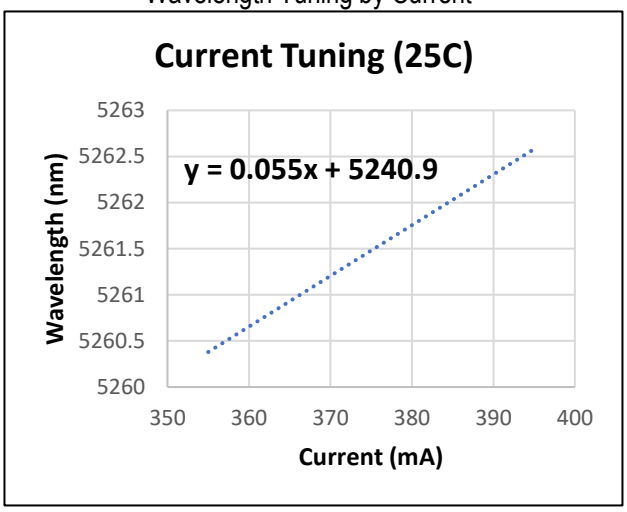
5.26 μm DISTRIBUTED FEEDBACK (DFB) QCL

PART NO: ATO5263-H (HHL-18-76)

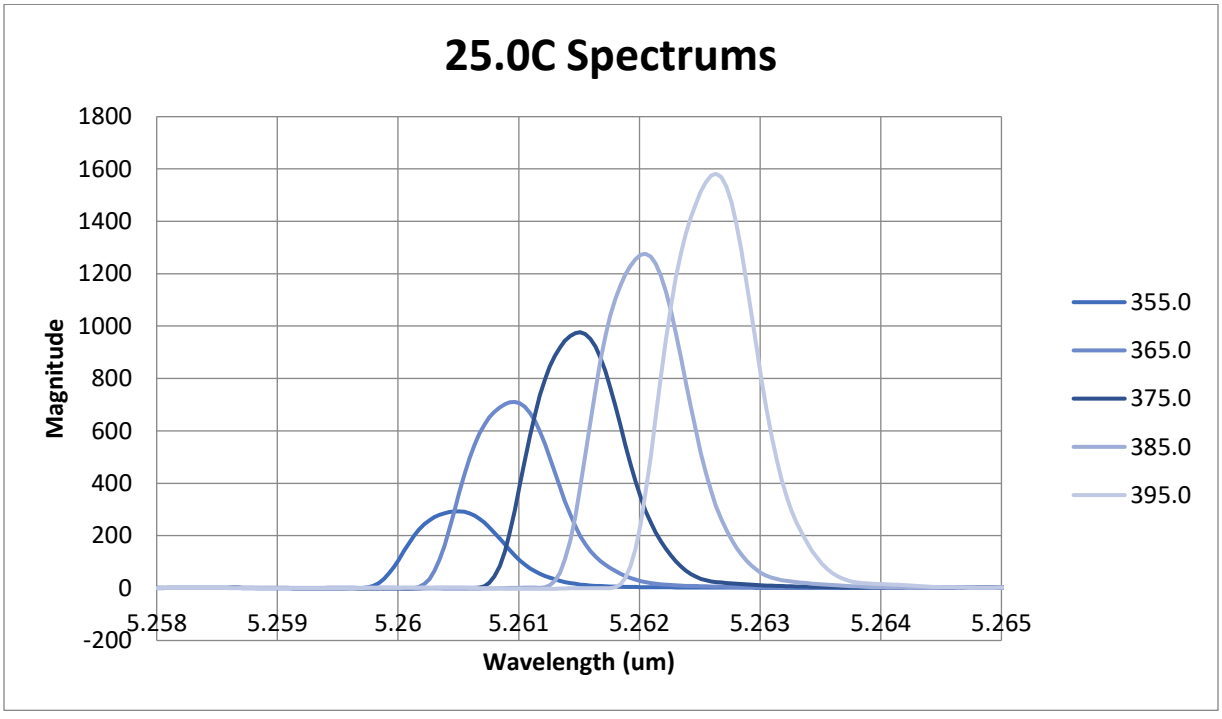
Wavelength Tuning by Temperature



Wavelength Tuning by Current



Spectral Characterization:



18007 Cortney Court City of Industry, CA 91748 T: +1 (626) 956 1000 F: +1 (626) 810 0259 sales@atoptics.com
www.atoptics.com

5.26 μm DISTRIBUTED FEEDBACK (DFB) QCL

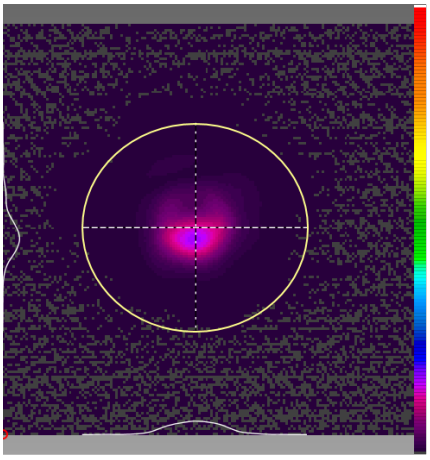
PART NO: **ATO5263-H (HHL-18-76)**

BEAM PROFILE CHARACTERIZATION(3) UNDER CW OPERATION

	Slow – Axis *(Horizontal)*	**Fast – Axis** *(Vertical)*	**Units**
Full Beam Diameter	3.32	3.39	mm
Beam Waist Location	1095.7	1318.0	mm
Divergence Angle	1.01	0.99	mrad
M^2	1.25	1.30	---

(3) I = 0.35 A, V = 12.9 V, T= 15 °C, Measured at $1/e^2$

2D Beam Profile at 30cm



3D Beam Profile at 30cm