To request any additional information please contact us at:

Email: sales@axcelphotonics.com

Phone: (508) 481-9200

Features

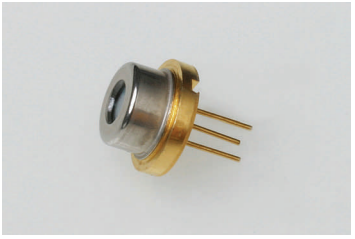
- Up to 150 mW CW output power.
- High Quality, Reliability, Performance

Applications

- Raman Spectroscopy
- Optical Data Storage
- Telecommunication

Product Specifications

785 nm Single-Mode Laser Diodes



Description:

High brightness, high quality, and high reliability are the foundation of our single mode product line. Axcel's 785 nm single mode laser diodes are available with up to 150 mW of continuous output power from a single emitter chip. Axcel's trademark laser chip design offers un-measurable degradation and long lifetimes that make our chips among the most reliable in the industry today. Our 785 nm single mode line serves a broad range of applications including Raman Spectroscopy, optical data storage, and telecommunication.

Packaging options include a 9 mm TO-can, 5.6 mm TO-can, or chip on sub-mount package. More options are available upon request. Please view our website for mechanical drawings of all of our sub-mount, mount, and module packages.

Contact us today and learn how Axcel Photonics can axcelerate your research and production!

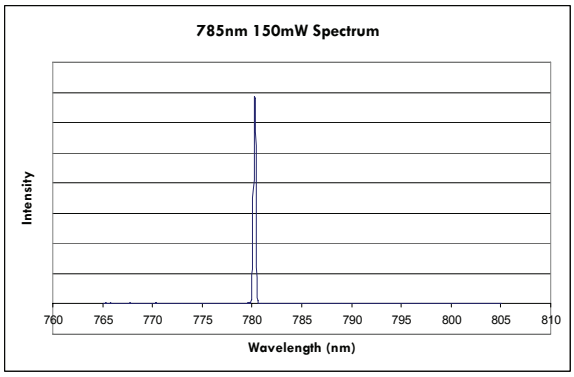
Standard Product Specifications for 785nm Single-mode Diodes

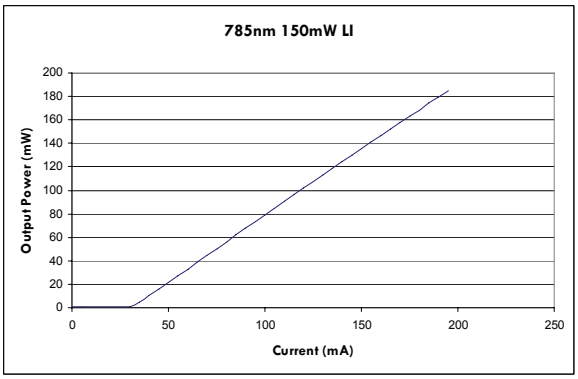
		150mW Series			80mW Series		
Parameter	Unit	Min	Typ	Max	Min	Typ	Max
Wavelength	nm	780	785	790	780	785	790
Spectrum FWHM	nm	-	0.5	2	-	0.5	2
Operating Power (P_o)	mW	-	150	-	-	80	-
Operating Current (I_o)	mA	-	170	200	-	105	130
Operating Voltage (V_o)	V	-	1.9	2.2	-	2.0	2.8
Lifetime	hour	100,000	-	-	100,000	-	-
Vertical Far Field	deg, FWHM	-	25	30	-	25	30
Parallel Far Field	deg, FWHM	-	8	10	-	8	10
Threshold (I_{th})	mA	-	35	55	-	30	50
Slope Efficiency (dP/dI)	W/A	1.0	1.1	-	1.0	1.1	-
Storage Temp.	°C	-40	-	80	-40	-	85
Operating Temp. (T_{op})	°C	-20	25	50	-10	25	60
Lead Soldering Temp.(5 sec)	°C	-	-	250	-	-	250

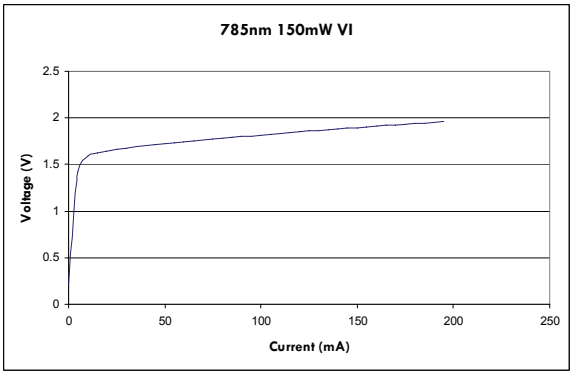
Note: 1) Specifications are subject to change without notice.

2) All Axcel Photonics products are TE polarized

785 nm Single Mode Performance Data Graphs







Determining Your Product number:

MM—WWW—PPPP—XYZ—(custom add-ons)

(package)-(wavelength)-(power)-(options)

Package:

C2	2.1 mm COS
M5	5.6 mm TO-can
M9	9 mm TO-can

Wavelength:

785	785 nm

Power Options:

0080	80 mW
0150	150 mW

X Option (aperture size)

S	single-mode

Y Option (wavelength tolerance)

5	±5 nm

Z Option (additional options)

0	none
P	w/ photodiode

Please note: These are our standard product configurations. Other options may be available, please inquire about any additional options that you may require when contacting our Sales Team.

Standard Product Configurations

80mW Series

C2-785-0080-S50

M5-785-0080-S50

M5-785-0080-S5D

M9-785-0080-S50

M9-785-0080-S5D

150mW Series

C2-785-0150-S50

M9-785-0150-S50

M9-785-0150-S5D

Safety

Caution: Laser light emitted from any diode laser is invisible and may be harmful to the human eye. Avoid looking directly into the diode laser aperture when the device is in operation.

Note: The use of optical instruments with this product will increase eye hazard.

ESD Caution

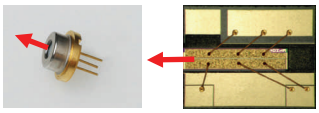
Always handle diode lasers with extreme care to prevent electrostatic discharge, the primary cause of unexpected diode failure. You can prevent ESD by always wearing wrist straps, grounding all applicable work surfaces, and following extremely rigorous anti-static

Operating Considerations

Operating the diode laser outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with the component must be employed such that the maximum peak optical power cannot be exceeded. CW diode lasers may be damaged by excessive drive current or switching transients. When using power supplies, the diode laser should be connected with the main power on and the output voltage at zero. The current should be increased slowly while monitoring the diode laser output power and the drive current. Device degradation accelerates with increased temperature, and therefore careful attention to minimize the case temperature is advised. A proper heat-sink for the diode laser on a thermal radiator will greatly enhance laser life.

Power Output Danger Label

WARNING! Invisible laser radiation is emitted from devices as shown below



21 CFR 1040.10 Compliance

Because of the small size of these devices, each of the labels shown are attached to the individual shipping container. They are illustrated here to comply with 21 CFR 1040.10 as applicable under the Radiation Control for Health and Safety Act of 1968.

Axcel Photonics, Inc. 45 Bartlett Street, Marlborough, MA 01752 USA www.axcelphotonics.com