

Features

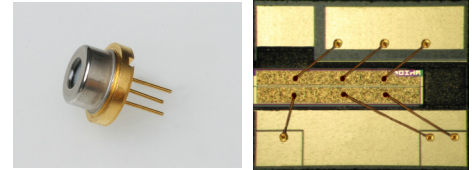
- Up to 300mW CW output power.
- High Quality, Reliability, & Performance

Applications

- Fiber Lasers
- Optical Data Storage
- Graphics

Product Specifications

940nm Single-Mode Laser Diodes



Description:

High brightness, high quality, and high reliability are the foundation of our single mode product line. Axcel's 940nm single mode laser diodes are available with up to 300mW of continuous output power from a single emitter chip. Axcel's trademark laser chip design offers unmeasurable degradation and long lifetimes that make our chips among the most reliable in the industry today. Our 940nm single mode line serves a broad range of applications including fiber lasers, optical data storage, and graphics.

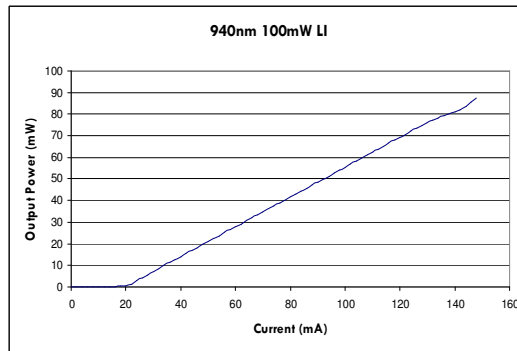
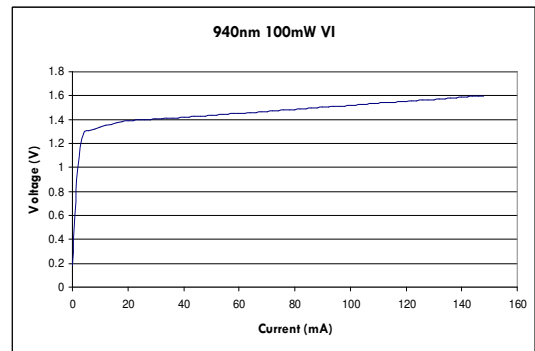
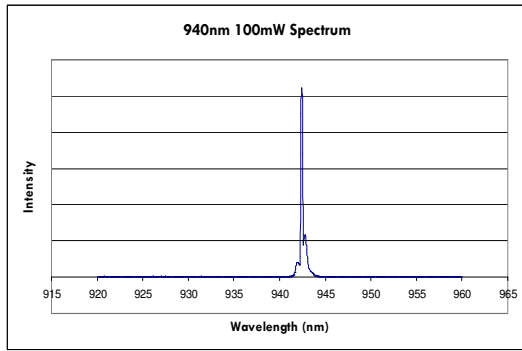
Packaging options include a 9mm TO-can or chip on sub-mount package. More options are available upon request. Please view our website for mechanical drawings of all of our sub-mounts.

Standard Product Specifications for 940nm Single-mode Diodes

Parameter	Unit	100mW Series			200mW Series			300mW Series		
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max
Wavelength	nm	935	940	945	935	940	945	935	940	945
Spectrum FWHM	nm		0.5	2.0	-	0.5	2.0	-	0.5	2.0
Operating Power (P _o)	mW	-	100	-	-	200	-	-	300	-
Operating Current (I _o)	mA	-	140	180	-	270	320	-	400	450
Operating Voltage (V _o)	V	-	1.9	2.2	-	1.9	2.2	-	1.9	2.2
Kink-Free Power	mW	110	-	-	220	-	-	330	-	-
Lifetime	hour	100,000	-	-	100,000	-	-	100,000	-	-
Vertical Far Field	deg, FWHM	-	28	32	-	28	32	-	28	32
Parallel Far Field	deg, FWHM	-	8	10	-	8	10	-	8	10
Threshold (I _{th})	mA	-	20	40	-	20	40	-	20	40
Slope Efficiency (dP/dI)	W/A	0.80	0.90	-	0.80	0.90		0.80	0.90	-
Storage Temperature	°C	-40	-	80	-40	-	80	-40	-	80
Operating Temperature (T _{op})	°C	-20	25	50	-20	25	50	-20	25	50
Lead Soldering Temperature (5 sec)	°C	-	-	250	-	-	250	-	-	250

- Note:**
- 1) Specifications are subject to change without notice.
 - 2) All Axcel Photonics products are TE polarized

940nm Single Mode Performance Data Graphs



Standard Product Configurations

100mW Series

- C2-940-0100-S50
- M9-940-0100-S50
- M9-940-0100-D5P
- M9-940-0100-S5D

200mW Series

- C2-940-0200-S50
- M9-940-0200-S50
- M9-940-0200-D5P
- M9-940-0200-S5D

300mW Series

- C2-940-0300-S50
- M9-940-0300-S50
- M9-940-0300-D5P

Determining Your Product number:

MM—WWW—PPP—XYZ—(custom add-ons)
(wavelength)-(package)-(power)-(options)

Package:

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

Wavelength:

- 940 940nm

Power Options:

- 0100 100mW
- 0200 200mW
- 0300 300mW

- S single-mode (cathode ground)
- D Single-mode (anode ground)

Y Option (wavelength tolerance)

- 5 ±5 nm

Z Option (additional options)

- 0 none
- P w/ photodiode (cathode ground)
- D w/ photodiode (anode ground)

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.

X Option (aperture size)

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.

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.

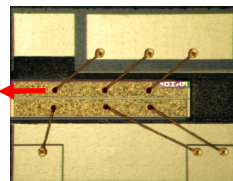
ESD Caution

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

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.