Laser Diodes

SHEAUMANN

LASER COMPONENTS

Features

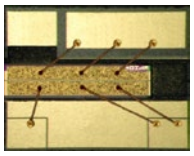
- Up to 300mW CW output power.
- High Quality, Reliability, & Performance

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. Sheaumann's 940nm single mode laser diodes are available with up to 300mW of continuous output power from a single emitter chip. Sheaumann'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 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

		100mW Series			200mW Series			300mW Series		
Parameter	Unit	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 Sheaumann Laser products are TE polarized

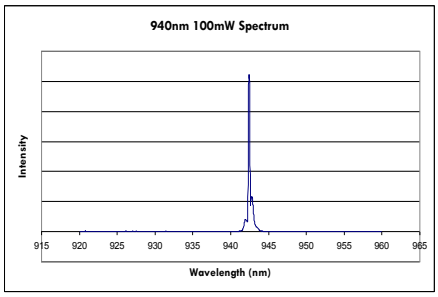
Germany & Other Countries
Laser Components GmbH
Tel: +49 8142 2864 – 0
Fax: +49 8142 2864 – 11
info@lasercomponents.com
www.lasercomponents.com

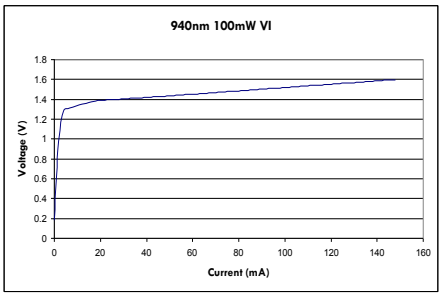
France
Laser Components S.A.S.
Tel: +33 1 39 59 52 25
Fax: +33 1 39 59 53 50
info@lasercomponents.fr
www.lasercomponents.fr

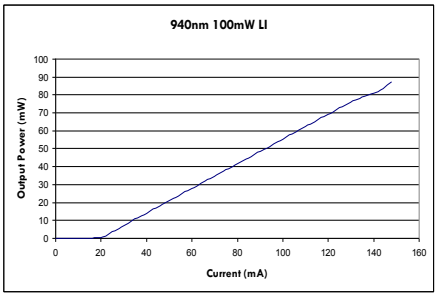
United Kingdom
Laser Components (UK) Ltd.
Tel: +44 1245 491 499
Fax: +44 1245 491 801
info@lasercomponents.co.uk
www.lasercomponents.co.uk

Nordic Countries
Laser Components Nordic AB
Tel: +46 31 703 71 73
Fax: +46 31 703 71 01
info@lasercomponents.se
www.lasercomponents.se

940nm Single Mode Performance Data Graphs







Determining Your Product number:

MM—WWW—PPPP—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

X Option (aperture size)

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.

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
M9-940-0300-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.

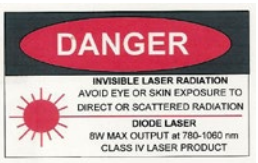
ESD Caution

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 techniques when handling diode lasers.

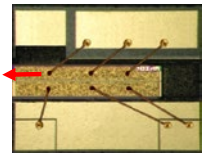
Operating Considerations

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.

Germany & Other Countries
Laser Components GmbH
Tel: +49 8142 2864 – 0
Fax: +49 8142 2864 – 11
info@lasercomponents.com
www.lasercomponents.com

France
Laser Components S.A.S.
Tel: +33 1 39 59 52 25
Fax: +33 1 39 59 53 50
info@lasercomponents.fr
www.lasercomponents.fr

United Kingdom
Laser Components (UK) Ltd.
Tel: +44 1245 491 499
Fax: +44 1245 491 801
info@lasercomponents.co.uk
www.lasercomponents.co.uk

Nordic Countries
Laser Components Nordic AB
Tel: +46 31 703 71 73
Fax: +46 31 703 71 01
info@lasercomponents.se
www.lasercomponents.se