

## 976 nm laser diode

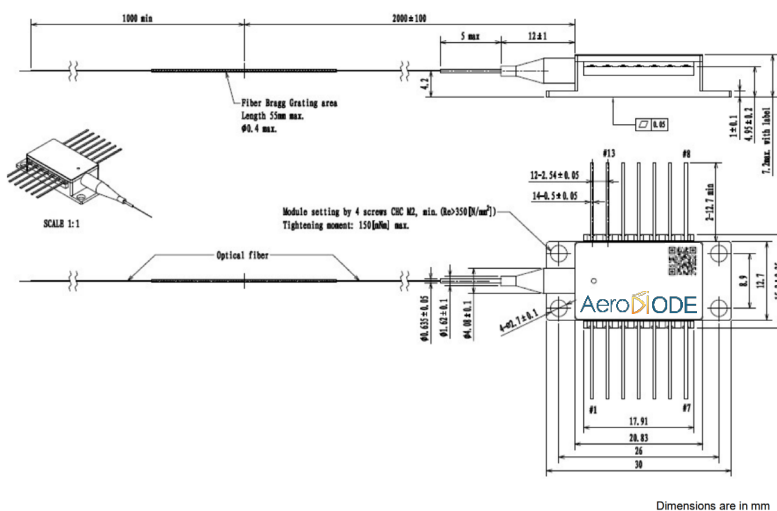
600 mW / singlemode PM fiber / Butterfly package

Reference: 976LD-1-0-0

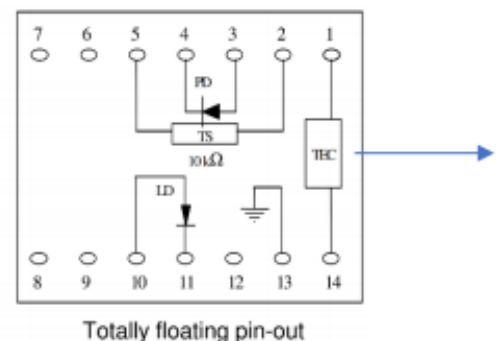
Technology : Single mode FP with Bragg Grating

SPECIFICATIONS	Unit	Min	Typ	Maximum
Output Power	mW	600		
Center Wavelength	nm	975	976	977
Spectral Width (FWHM)	nm			1.0
Threshold Current	mA			70
Operating Current	mA		1050	
Operation Voltage	V			1.8
Wavelength shift w Temperature	nm/°C			0.02
Power in Band	%	90		
Polarization Extinction Ratio	dB	13		
Internal Photodiode Responsivity	mA/W	0.5		10
Internal Photodiode Dark Current	nA			100
TEC current (Case @ 75°C)	A			1.4
TEC Voltage (Case at 75°C)	V			3.2
Internal thermistor (25°C)	kOhm	9.5		10.5
Fiber type	PM980 or equivalent			
Fiber bend radius	mm	16 (abs min)		
Coating diameter	µm	230	250	270
Storage case temperature	°C	-40 (abs min)		85 (abs max)
Operating case temperature	°C	-20 (abs min)		75 (abs max)
Lead soldering temperature	°C			280
Laser diode reverse voltage	V			2.0
Polarization state	Aligned to the slow axis			

Form factor:



Laser diode pinning :



## 976 nm laser diode

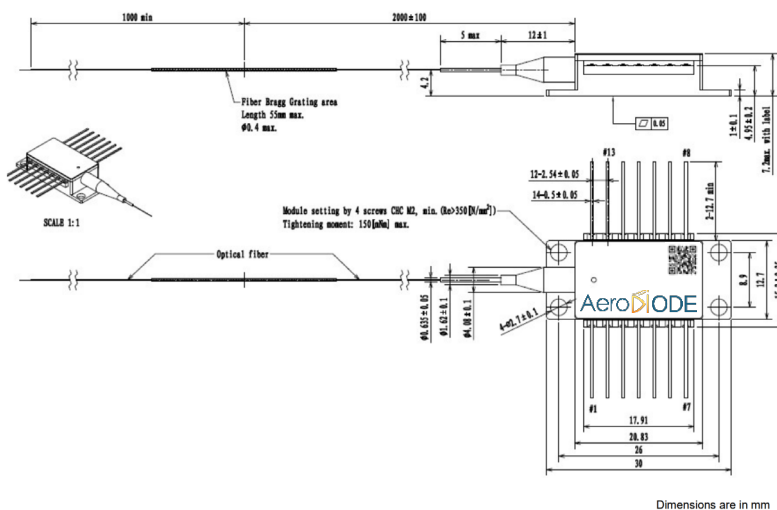
1000 mW / singlemode PM fiber / Butterfly package

Reference: 976LD-2-0-0

Technology : Single mode FP with Bragg Grating

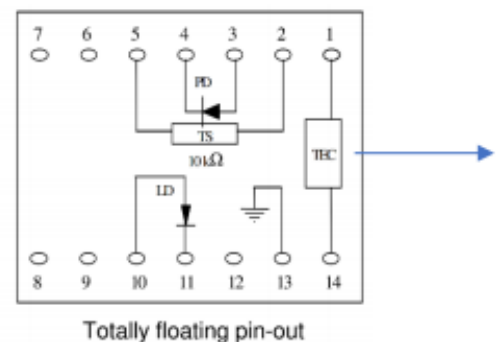
SPECIFICATIONS	Unit	Min	Typ	Maximum
Output Power	mW	1000		
Center Wavelength	nm	975	976	977
Spectral Width (FWHM)	nm			1.0
Threshold Current	mA			100
Operating Current	mA		1700	
Operation Voltage	V			2.0
Wavelength shift w Temperature	nm/°C			0.02
Power in Band	%	90		
Polarization Extinction Ratio	dB	13		
Internal Photodiode Responsivity	mA/W	0.5		10
Internal Photodiode Dark Current	nA			100
TEC current (Case @ 75°C)	A			1.6
TEC Voltage (Case at 75°C)	V			3.4
Internal thermistor (25°C)	kOhm	9.5		10.5
Fiber type	PM980 or equivalent			
Fiber bend radius	mm	16 (abs min)		
Coating diameter	µm	230	250	270
Storage case temperature	°C	-40 (abs min)		85 (abs max)
Operating case temperature	°C	-20 (abs min)		75 (abs max)
Lead soldering temperature	°C			280
Laser diode reverse voltage	V			2.0
Polarization state	Aligned to the slow axis			

Form factor:



Dimensions are in mm

Laser diode pinning :



## 976 nm laser diode 10 W- 105 μm fiber – NA=0.22\*

Reference: 976LD-3-0-0

Technology : Single emitter with VBG\*\*

SPECIFICATIONS	Unit	Min	Typ	Maximum
Output Power (nominal/Kink free)	W	9/10		
Center Wavelength	nm	975.5	976	976.5
Spectral Width (FWHM)	nm		<0.7	
Threshold Current	A		0.9	
Operating Current	A			13
Operation Voltage	V		1.6	1.8
Wavelength shift w Temperature	nm/°C		0.02	
Wavelength shift w current	nm/A			
Feedback isolation	nm	1020		1200
	dB	30		
Slope Efficiency	W/A		0.9	
Storage case Temperature	°C	-40 (abs. min)		70 (abs max)
Operating case temperature	°C	20 (abs min)		30 (abs max)
Fiber Bend Radius	mm	50 (abs min)		
Fiber Buffer/tube Diameter	μm		245/900	
Fiber Clad Diameter	μm		125	
Fiber Core Diameter	μm		105	
Numerical Aperture	NA			0.22*
Soldering Temperature	°C			260
Soldering time	s			10
Integrated thermistor		No		
Fiber connector		Yes – SMA905***		

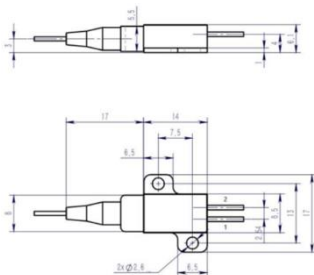
Please solder the pins when the level of current is over 6A

\*: Light NA within the fiber is typically much lower

\*\* : Volume Bragg Grating

\*\*\* : Fiber connector for handling and space or collimator-coupling- not for SMA-SMA fiber-to-fiber connection

Form factor:



## 976 nm laser diode

### 30 W- 105 $\mu$ m fiber – NA=0.22\*

Reference: 976LD-4-0-0

Technology : Multi emitters with VBG\*\*

SPECIFICATIONS	Unit	Min	Typ	Maximum
Output Power (nominal/Kink free)	W	27/30		
Center Wavelength	nm	975.5	976	976.5
Spectral Width (FWHM)	nm		<0.7	
Threshold Current	A		0.9	
Operating Current	A		12	13
Operation Voltage	V		4.8	6.0
Narrow spectral emission range	A		3-13	
Wavelength shift w Temperature	nm/°C		0.02	
Wavelength shift w current	nm/W			
Feedback isolation	nm	1020		1200
	dB	30		
Slope Efficiency	W/A		2.5	
Storage case Temperature	°C	-40 (abs. min)		70 (abs max)
Operating case temperature	°C	20 (abs min)		30 (abs max)
Fiber Bend Radius	mm	50 (abs min)		
Fiber Buffer/tube Diameter	$\mu$ m		250/900	
Fiber Clad Diameter	$\mu$ m		125	
Fiber Core Diameter	$\mu$ m		105	
Numerical Aperture	NA		0.22	
Soldering Temperature	°C			260
Soldering time	s			10
Dimensions	mm	43*25*11		
Mounting holes diameter/distances	mm	Ø3.2 / 20*38		
Integrated thermistor		Yes		
Fiber connector		Yes : SMA905***		

Please solder the pins when the level of current is over 6A

\*: Light NA within the fiber is typically much lower

\*\* : Volume Bragg Grating

\*\*\* : Fiber connector for handling and space or collimator-coupling- not for SMA-SMA fiber-to-fiber connection



## 976 nm laser diode

### 60 W - 105 μm fiber - NA=0.22\*

Reference: 976LD-5-0-0

Technology : Multi emitters with VBG\*\*

SPECIFICATIONS	Unit	Min	Typ	Maximum
Output Power (nominal/Kink free)	W	60		
Center Wavelength	nm	975.5	976	976.5
Spectral Width (FWHM)	nm		0.5	<0.7
Threshold Current	A		0.9	
Operating Current	A		12	13
Operation Voltage	V		12	12.5
Narrow spectral emission range	A		7-13	
Wavelength shift w Temperature	nm/°C		0.02	
Wavelength shift w current	nm/A		0.03	
Feedback isolation	nm	1020		1200
	dB	30		
Slope Efficiency	W/A		5.5	
Storage case Temperature	°C	-40(abs. min)		70 (abs max)
Operating case temperature	°C	20 (abs min)		30 (abs max)
Fiber Bend Radius	mm	50 (abs min)		
Fiber Buffer/tube Diameter	μm		250/900	
Fiber Clad Diameter	μm		125	
Fiber Core Diameter	μm		105	
Numerical Aperture	NA		0.22	
Soldering Temperature	°C			260
Soldering time	s			10
Dimensions	mm	80*48*16		
Mounting holes (diam/dist)	mm	Ø3.4 / 75*48		
Integrated Thermistor		Yes		
Fiber connector		Yes – SMA905***		

Please solder the pins when the level of current is over 6A

\*: Light NA within the fiber is typically much lower

\*\* : Volume Bragg Grating

\*\*\* : Fiber connector for handling and space or collimator-coupling– not for SMA-SMA fiber-to-fiber connection



## 976 nm laser diode

100 W- 105  $\mu\text{m}$  fiber –NA=0.22\*

Special version with broad locking range : 60-100% of nominal power

Reference: 976LD-6-0-0

Technology : Multi emitters with VBG\*\*

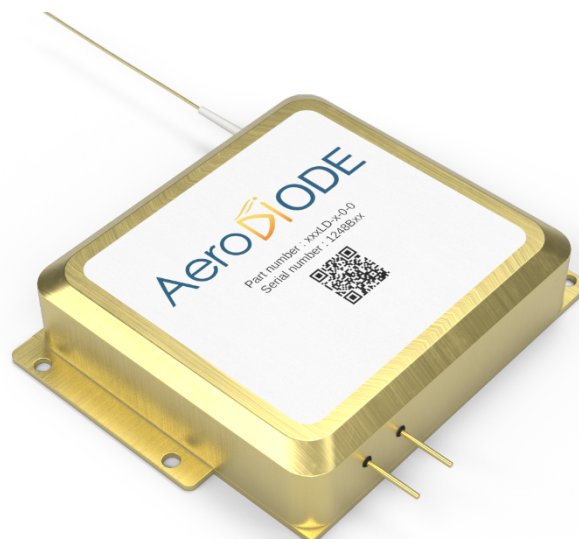
SPECIFICATIONS	Unit	Min	Typ	Maximum
Output Power	W	100		
Center Wavelength	nm	975	976	976
Spectral Width (FWHM)	nm			1.0
Threshold Current	A		0.9	
Operating Current	A		12.5	14
Operation Voltage	V		16.0	18
Narrow spectrum emission range	A		7-13	
Wavelength shift w Temperature	nm/°C		0.02	
Wavelength shift w current	nm/W		0.03	
Slope Efficiency	W/A		11	
Feedback isolation	nm	1020		1200
	dB	30		
Storage case Temperature	°C	-20 (abs. min)		70 (abs max)
Operating case temperature	°C	20 (abs min)		30 (abs max)
Fiber Bend Radius	mm	60 (abs min)		
Fiber Buffer/tube Diameter	$\mu\text{m}$		250/900	
Fiber Clad Diameter	$\mu\text{m}$		125	
Fiber Core Diameter	$\mu\text{m}$		105	
Numerical Aperture	NA		0.22*	
Soldering Temperature	°C			260
Soldering time	s			10
Dimensions	mm	80*80*25		
Mounting holes (diam/dist)	mm	Ø3.3 / 74.4*38		
Integrated thermistor		No		
Fiber connector		Yes : SMA905***		

Please solder the pins when the level of current is over 6A

\*: Light NA within the fiber is typically much lower - contact us for lower NA fiber version (for example 130W-NA=0.15)

\*\* : Volume Bragg Grating

\*\*\* : Fiber connector for handling and space or collimator-coupling– not for SMA-SMA fiber-to-fiber connection



**AERODIODE** - Institut d'optique d'Aquitaine - Rue François Mitterrand

33400 Talence - France - Tél. : +33 (0)6 27 69 41 52

contact.aerodiode@aerodiode.com - [www.aerodiode.com](http://www.aerodiode.com)

SIRET 880 329 636 00018 - N° TVA intracommunautaire : FR 87880329636



## 976 nm laser diode

### 140 W- 105 μm fiber –NA=0.22\*

Reference: 976LD-6-0-0

Technology : Multi emitters with VBG\*\*

SPECIFICATIONS	Unit	Min	Typ	Maximum
Output Power	W	140		
Center Wavelength	nm	975	976	976
Spectral Width (FWHM)	nm			1.0
Threshold Current	A		0.9	
Operating Current	A		13	14
Operation Voltage	V		22.5	24
Narrow spectral emission range	A		11-14	
Wavelength shift w Temperature	nm/°C		0.02	
Wavelength shift w current	nm/W		0.03	
Slope Efficiency	W/A		11	
Feedback isolation	nm	1020		1200
	dB	30		
Storage case Temperature	°C	-20 (abs. min)		70 (abs max)
Operating case temperature	°C	20 (abs min)		30 (abs max)
Fiber Bend Radius	mm	60 (abs min)		
Fiber Buffer/tube Diameter	μm		250/900	
Fiber Clad Diameter	μm		125	
Fiber Core Diameter	μm		105	
Numerical Aperture	NA		0.22*	
Soldering Temperature	°C			260
Soldering time	s			10
Dimensions	mm	80*80*25		
Mounting holes (diam/dist)	mm	Ø3.3 / 74.4*38		
Integrated thermistor	No			
Fiber connector	Yes : SMA905***			

Please solder the pins when the level of current is over 6A

\*: Light NA within the fiber is typically much lower - contact us for lower NA fiber version (for example 130W-NA=0.15)

\*\* : Volume Bragg Grating

\*\*\* : Fiber connector for handling and space or collimator-coupling- not for SMA-SMA fiber-to-fiber connection

