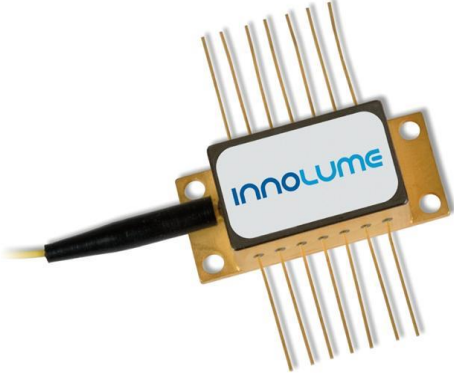
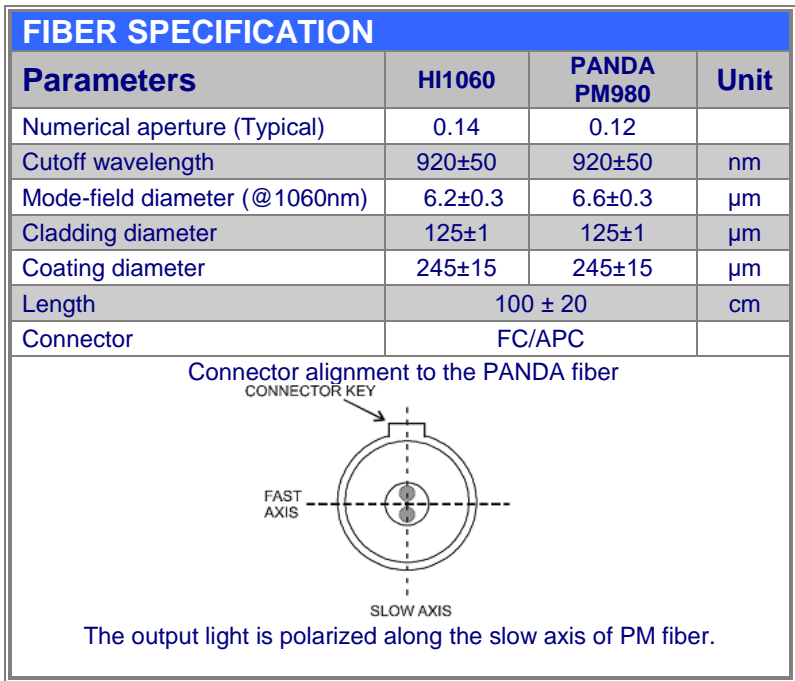
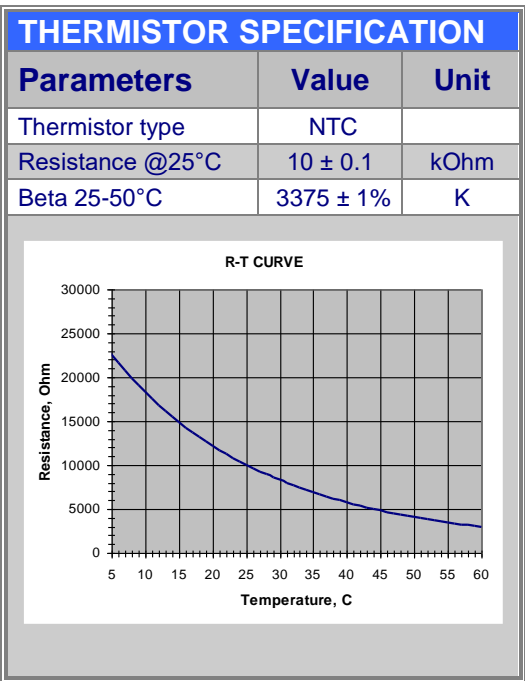
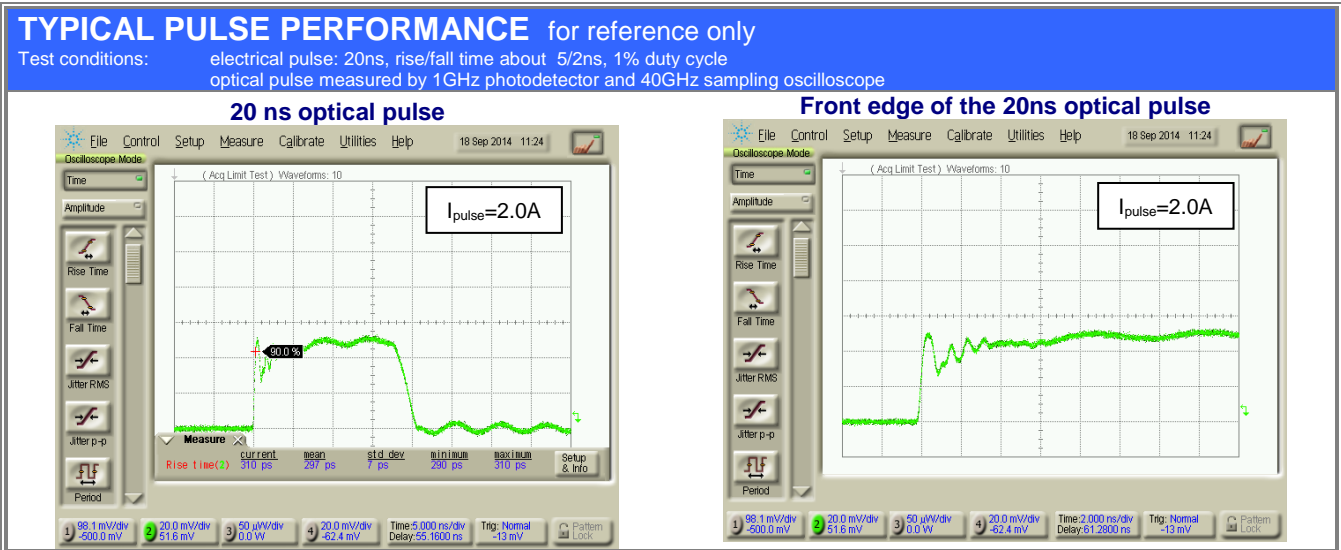
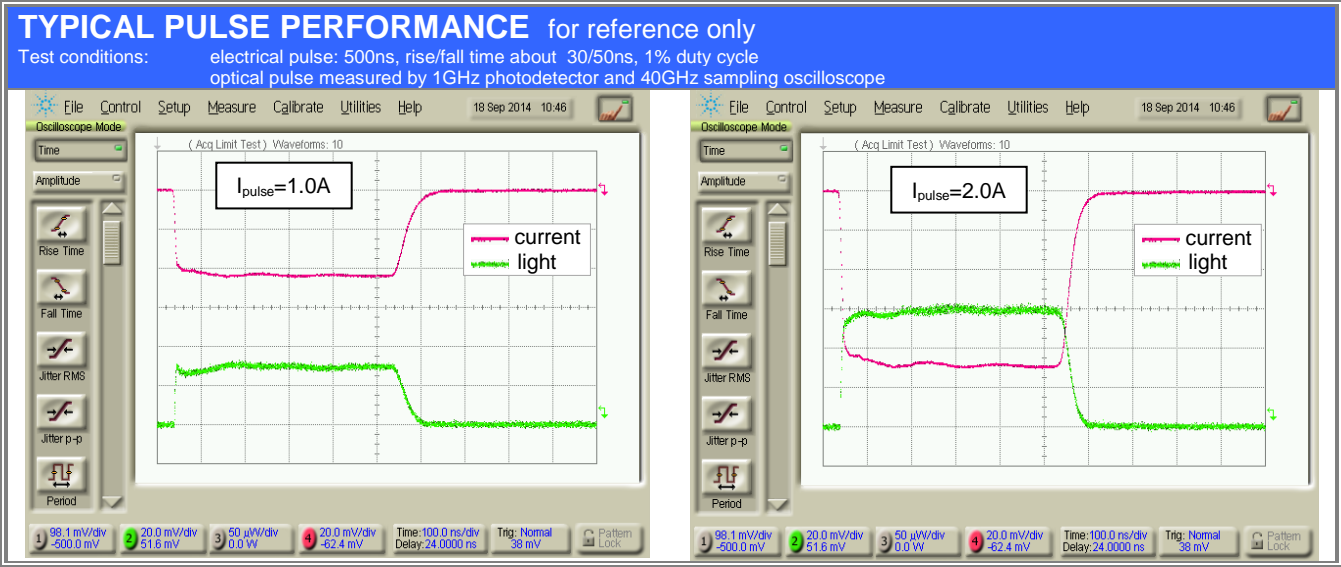


<h2 style="margin: 0;">SM-10XX-YY-p1000</h2> <p style="margin: 0;">Fiber Coupled Laser Diode for pulse or CW operation</p>	
	<p><b>Features:</b></p> <ul style="list-style-type: none"> <li>• High power (1000mW) low noise optical pulse</li> <li>• 400mW CW output power</li> <li>• Broadened spectrum to exclude Brillouin scattering</li> <li>• Any wavelength from 1010-1130nm range available</li> <li>• Proprietary mirror coating technology enabling long life-time</li> <li>• HI1060 fiber or polarization maintaining PM980 fiber</li> <li>• RoHS compliant</li> </ul> <p><b>Applications:</b></p> <ul style="list-style-type: none"> <li>• Seeding of fiber lasers</li> <li>• Instrumentation / measurement equipment</li> </ul>
<b>Specification</b>	DATE: 11 <sup>th</sup> January 2017

SPECIFICATIONS					
Test conditions: module is mounted on room temperature heatsink, thermistor temperature 25°C					
Parameters	Symb.	Min.	Typ.	Max.	Unit
Pulsed output peak power	$P_{\text{pulse}}$	1000			mW
Pulsed operating peak current (500ns, 1% duty cycle)	$I_{\text{pulse}}$		1700	2000	mA
Range of available wavelength at $P_{\text{pulse}}$ (500ns, 1% duty cycle)	$\lambda_{\text{pulse}}$	1010		1130	nm
Mean wavelength tolerance at $P_{\text{pulse}}$ (500ns, 1% duty cycle)				5	nm
Spectral width @ -3dB level at $P_{\text{pulse}}$	$\Delta\lambda_{\text{pulse}}$	1.5	3.0	6.0	nm
Rise / Fall times		See typical pulse performance below			
CW output power	$P_{\text{out}}$	400			mW
CW operating current	$I_{\text{op}}$		700	800	mA
Range of available wavelength at $P_{\text{out}}$	$\lambda_{\text{CW}}$		$\lambda_{\text{pulse}}$		nm
Mean wavelength tolerance at $P_{\text{out}}$				5	nm
Spectral width @ -3dB level at $P_{\text{out}}$	$\Delta\lambda_{\text{CW}}$	0.5	1.0	4.0	nm
Wavelength temperature tunability	$\Delta\lambda/\Delta T$	0.3	0.35	0.4	nm/°C
CW threshold current	$I_{\text{th}}$		90	150	mA
CW polarization extinction ratio (for PM980 fiber only)	PER	12	17		dB
CW forward voltage	$V_f$		1.7	1.8	V

ABSOLUTE MAXIMUM RATINGS			
Parameters	Min.	Max.	Unit
Laser Diode reverse voltage		2	V
Laser Diode CW forward current		1500	mA
Laser Diode pulse forward current (<1µs pulse with <10% duty cycle)		3000	mA
Thermo Electric Cooler current		3	A
Thermo Electric Cooler voltage		4	V
Fiber bend radius	3		cm
Chip operating temperature range	5	40	°C
Case operating temperature range	0	70	°C
Storage temperature range	-40	85	°C



## DIMENSIONS (All sizes in mm)

**Pin identification:**

1.	TEC “+”
2.	Thermistor
3.	
4.	Thermistor
5.	
6.	
7.	
8.	
9.	
10.	Laser Diode anode “+”
11.	Laser Diode cathode “-”
12.	
13.	Case
14.	TEC “-”

## SAFETY AND OPERATING INSTRUCTIONS

The light emitted from this device is invisible and can be harmful to the human eye. Avoid looking directly into the fiber connector when the device is in operation. Proper laser safety eyewear must be worn during operation with open connector.


Absolute Maximum Ratings may be applied to the device for short period of time only. Exposure to maximum ratings for extended period of time or exposure to more than one maximum rating may cause damage or affect the reliability of the device. Operating the device 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 forward current cannot be exceeded.

A proper heatsink for the device on thermal radiator is required. The device must be mounted on radiator with 4 screws (bolt down in X-style fashion with initial torque set to 0.075Nm and final X-style bolt down at 0.15Nm) or with clamps. The deviation from flatness of radiator surface must be less than 0.05mm. It's recommended using of Indium foil or thermal conductive and soft material between bottom of the case and heatsink for thermal interface. It's undesirable to use thermal grease for this.

Avoid back reflection to the device. It may give impact on the device performance in aspects of spectrum and power stability. It also may cause fatal facet damage. Using of optical isolators is highly recommended to block back reflection.

Do not pull the fiber. Do not bend a fiber with a radius smaller than 3 cm. Fiber tip should always be protected from any contamination or damage during the process of installation. After removing the dust-preventing cap covered at fiber tip, carefully clean fiber tip by wiping through one direction using optical lens cleaning paper or cotton swab dabbed with Iso-Propanol or Ethyl alcohol. Operate the device with clean fiber connector only.

Electrostatic discharge is the primary cause of unexpected product failure. Take extreme precaution to prevent ESD. During device installation, ESD protection has to be maintained - use wrist straps, grounded work surfaces and rigorous antistatic techniques when handling the product.




**LASER RADIATION**  
 AVOID EYE OR SKIN EXPOSURE TO  
 DIRECT OR SCATTERED RADIATION  
 CLASS 4 LASER PRODUCT

**CAUTION**  
 STATIC SENSITIVE DEVICE  
 OBSERVE PRECAUTIONS

DANGER

VISIBLE AND/OR INVISIBLE LASER RADIATION  
 AVOID EYE OR SKIN EXPOSURE TO  
 DIRECT OR SCATTERED RADIATION

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 DIODE LASER  
 MAX POWER 1W  
 WAVELENGTH 1000 - 1400 nm  
 CLASS IV LASER PRODUCT

When ordering please specify mean wavelength and fiber type.

Example of Part Number identification:

- SM-1020-HI-p1000     -> 1000mW pulse optical power at 1020nm, HI-1060 fiber
- SM-1122-PM-p1000   -> 1000mW pulse optical power at 1122nm, PM-980 fiber

**NOTE: Innolume product specifications are subject to change without notice.**