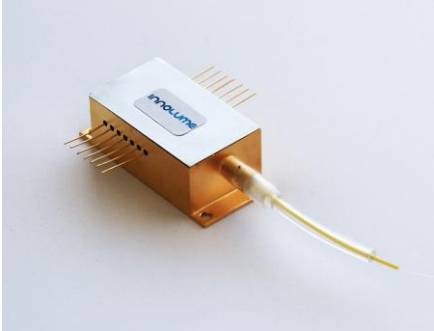
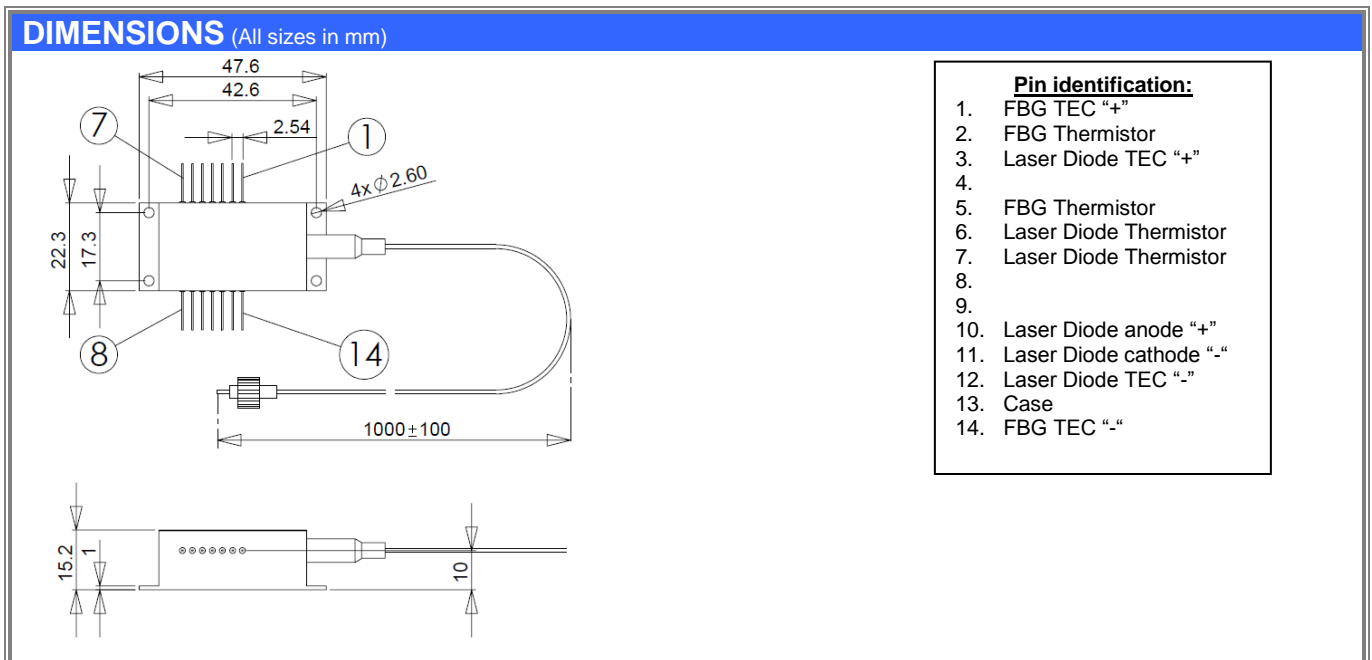
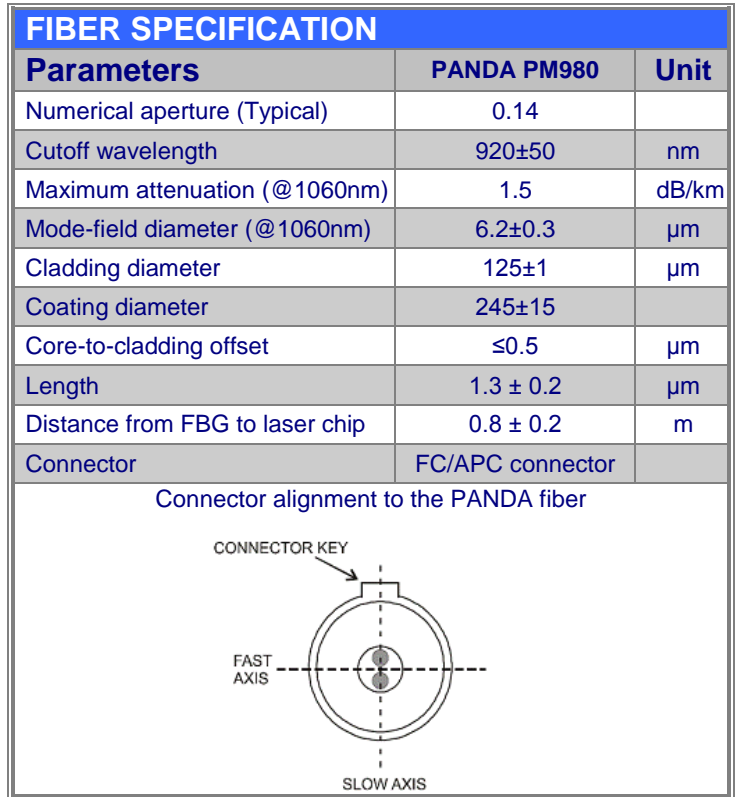
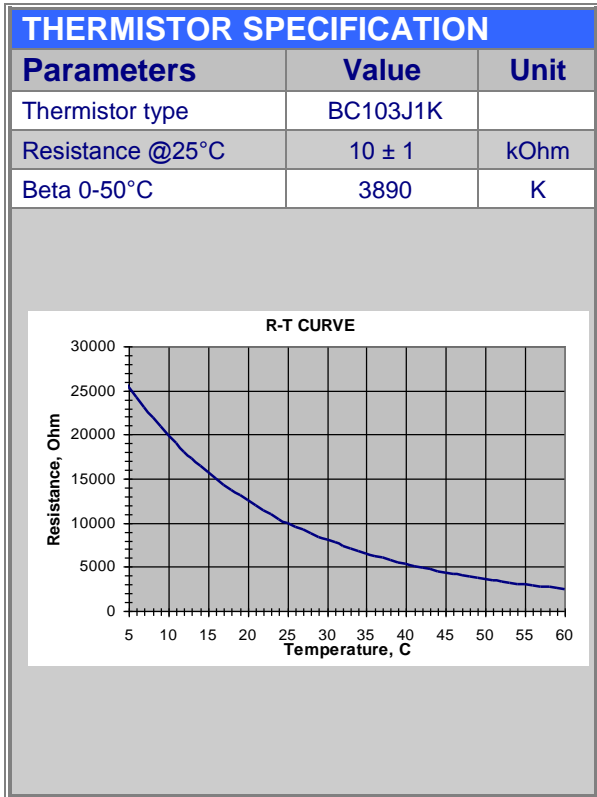


LD-1000-FBG-250	
Fiber Bragg Grating wavelength locked Laser Diode Module 250mW @ 1000nm	
	<p><b>Features:</b></p> <ul style="list-style-type: none"> <li>InAs/GaAs Quantum Well based diode laser</li> <li>250mW output power in &lt;0.1nm spectral line</li> <li>Wavelength tuning with FBG temperature</li> <li>Separate TEC for the FBG thermal control</li> <li>Polarization maintaining Corning PM980 fiber</li> </ul>
	<ul style="list-style-type: none"> <li>Proprietary mirror coating technology enabling long life-time</li> <li>High reliable Au/Sn-technology</li> </ul>
<b>Preliminary specification for engineering samples</b>	DATE: 23 <sup>rd</sup> June 2010

SPECIFICATIONS						
Test conditions: CW operation; chip, FBG & case temperature 25°C						
Parameters	Measurement conditions	Symb.	Min.	Typ.	Max.	Unit
Peak wavelength	$P_{out}$	$\lambda_P 998.10nm$ $\lambda_P 1000.19nm$	997.95 1000.05	998.10 1000.19	998.25 1000.35	nm
CW output power		$P_{out}$	250			mW
Operating current	$P_{out}$	$I_{op}$	500	550	700	mA
Threshold current		$I_{th}$		50	120	mA
Spectral Bandwidth	-3dB level; $P_{out}$	$\Delta\lambda$			0.1	nm
Wavelength shift with FBG temperature	$P_{out}$	$\Delta\lambda/\Delta T$		7	10	pm/°C
Forward voltage	$I_{op}$	$V_f$		1.4	1.8	V
Polarization Extinction Ratio	$P_{out}$	PER	15	18		dB
Chip operating temperature	on thermistor	$T_{op}$	15	25	30	°C
FBG temperature range	on thermistor	$T_{FBG}$	0		85	°C

ABSOLUTE MAXIMUM RATINGS			
Parameters	Min.	Max.	Unit
Laser Diode reverse voltage		1	V
Laser Diode CW forward current		$I_{op}+200$	mA
Thermo Electric Cooler current		3	A
Thermo Electric Cooler voltage		4	V
Fiber bend radius	3		cm
Storage temperature range (in original sealed pack)	5	80	°C
Case operating temperature range	0	60	°C
FBG temperature	0	85	°C



## SAFETY AND OPERATING INSTRUCTIONS

The laser light emitted from this device is invisible and will be harmful to the human eye. Avoid looking directly into the output fiber or into the collimated beam along its optical axis when the device is in operation. Proper laser safety eyewear must be worn during operation.

Operating the laser diode 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 laser diode module on thermal radiator is required. The module must be mounted on radiator with screws (bolt down in X-style fashion with initial torque set to 0.075Nm and final X-style bolt down at 0.15Nm) or clamps. The deviation from flatness of radiator surface must be less than 0.05mm. It's recommended using of In-foil or similar between bottom of the module and heatsink for thermal interface.

Carefully handle the fragile fiber, do not apply any stress, do not pull the fiber, do not bend fiber with a radius smaller than 3cm. Operate the laser module with clean fiber connector only. Periodically check and clean the connector if necessary. To clean the connector use suitable fiber cleaning tools (e.g. special cleaning tissue for optics). Perform cleaning only while the laser is switched off. Protect the fiber connector with protection cap while it's unplugged.

ESD PROTECTION – Electrostatic discharge is the primary cause of unexpected Laser Diode failure. Take extreme precaution to prevent ESD. Use wrist straps, grounded work surfaces and rigorous antistatic techniques when handling laser diodes.



### Part Number Identification:

LD-998.1-FBG-250 -> 250mW output power at peak wavelength 998.1nm  
LD-1000.19-FBG-250 -> 250mW output power at peak wavelength 1000.19nm

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