

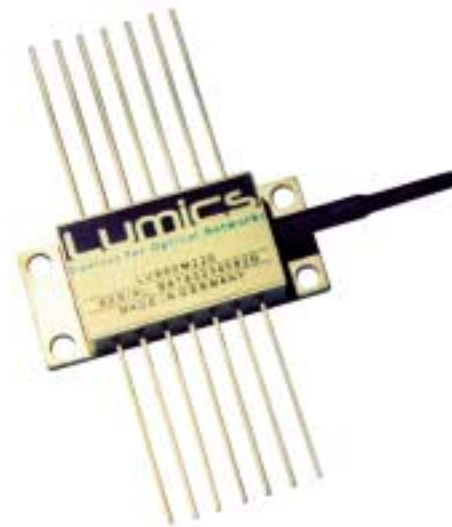
LU980M

Pump Laser Module

Up to 250mW operation power

Features:

- Wavelength 978-982nm
- High kink-free power
- Proven reliability for high power operation
- Cooled 14-pin package
- Very powerful chip design
- Single mode fiber pigtail
- Optional FBG stabilisation



Description / Applications:

The Lumics LU980M laser diode module contains an optimized GaAs/AlGaAs/InGaAs quantum well high power laser. It has been specifically designed for applications in low noise high power Erbium Doped Fiber Amplifiers (EDFA). The extremely stringent reliability requirements are achieved through our patent pending innovative technology. This includes careful design, exactly defined manufacturing and extensive testing. The qualification contains a set of optoelectronic, thermal and mechanical tests. Each laser diode module is individually serialized for traceability and is shipped with a specified set of test data.

Reliability tests according to Telcordia GR-468-CORE are ongoing at present.

Characteristics:

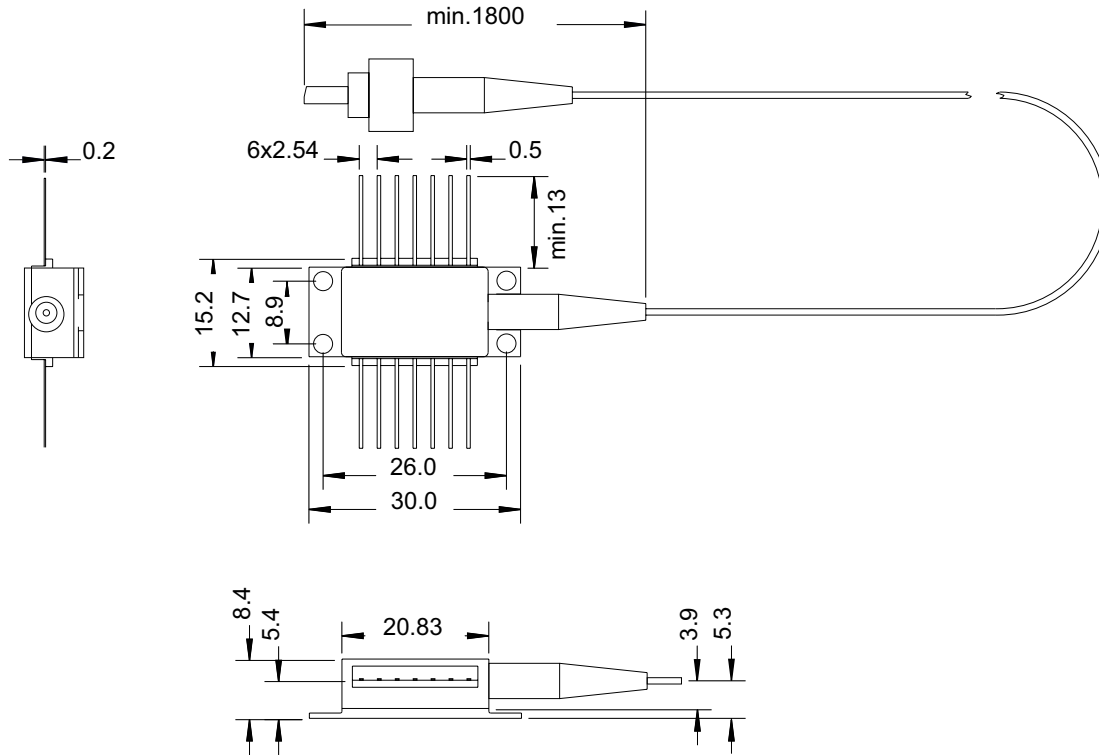
Parameter		Symbol	Min	Typ	Max	Unit
Operating Power*	LU980M160	P_{op}	160			mW
	LU980M250	P_{op}	250			mW
Threshold Current	LU980M160	I_{th}	23	25	27	mA
	LU980M250	I_{th}	26	28	30	mA
LD Operating Forward Current	LU980M160	I_{ot}			280	mA
	LU980M250	I_{ot}			440	mA
Forward Voltage	at I_{op}, T_{op}	V_{op}			2.3	V
Chip Submount Temperature		T_{op}	20	25	30	°C
Kink-free Power		P_k	1.2 x P_{op}			mW
Peak Wavelength	at I_{op}, T_{op}	λ_{peak}	978	980	982	nm
Spectral Width (RMS)	at I_{op}, T_{op}	$\Delta\lambda$		2		nm
Monitor Responsivity		dI/dP	2	4	10	$\mu A/mW$
Monitor Dark Current		I_{PDD}		0.1	1	nA
TEC Current		I_{TEC}			2	A
TEC Voltage		V_{TEC}			3.2	V
Thermistor Resistance	at $T=25^\circ C$	R_{th}	9.5	10	10.5	Kohm
Thermistor B constant	at $T=25^\circ C$	B_{th}		3892		K

* kink-free fiber coupled (kink-free is defined as $I_{dL/dI} - \langle dL/dI \rangle < 0.2$, where $\langle dL/dI \rangle$ is the average slope efficiency below kink)

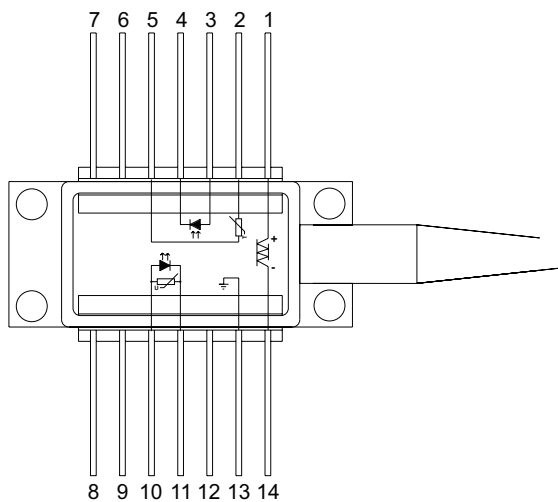
Absolute Maximum Ratings:

Parameter	Min	Max	Unit
LD Forward Current		500	mA
LD Reverse Voltage		2.4	V
Operating Case Temperature	0	70	°C
Storage Temperature	-20	70	°C
PD Forward Current		10	mA
PD Reverse Voltage		80	V
TEC Current		2	A
TEC Voltage		3.2	V

Module Drawing (dimensions in mm):

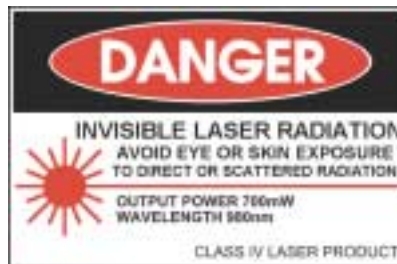
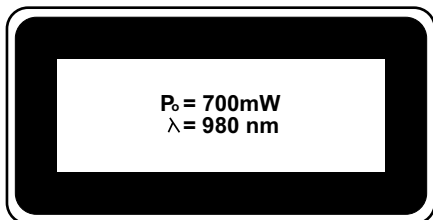
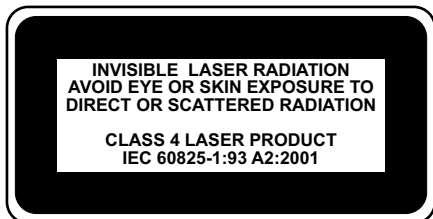


Pin Connections:



Pin	Function	Pin	Function
1	Cooler (+)	8	nc
2	Thermistor	9	nc
3	PD anode (-)	10	LD anode (-)
4	PD cathode (+)	11	LD cathode (+)
5	Thermistor	12	nc
6	nc	13	Case ground
7	nc	14	Cooler (-)

User Safety:



Complies with 21 CFR1040.10

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