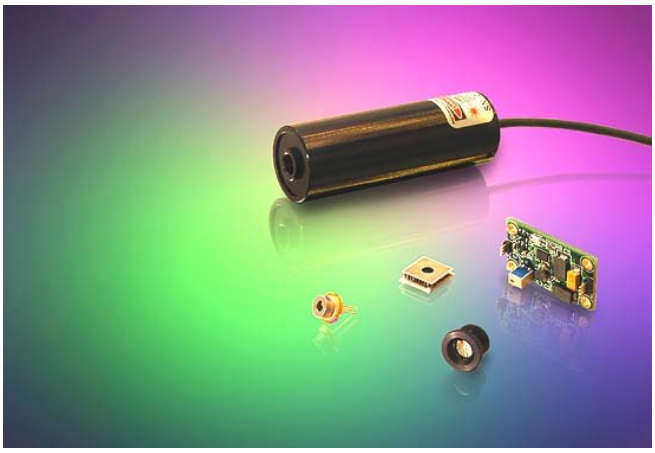
General Microtechnology & Photonics
Instruments for Industry, Research, Telecom & Medicine

TECGL Series

Thermoelectrically Cooled Green Laser System



The TECGL Series Thermoelectrically Cooled Green Laser System from GMP SA is a self-contained laser module composed of a laser head and optics with a built in temperature controller and driver circuit in a compact and rugged package. The built-in temperature controller controls the laser temperature with a stability of ±0.01°C.The laser output power stability is less than 1% over a long term. The stable power and exceptional beam pointing characteristics of this laser makes it ideal for medical and imaging applications.

All standard TECGL series lasers are supplied with a 3.3 VDC power supply and do not need any additional instrumentation. They are available in output power ranges of 1mW to 30mW. Modulated options (TTL) with 0 to 10kHz and power variable options (PV) and also available

Product Features

- ***Integrated TEC & Laser Controller***
- ***Compact Size, 1 × 4 inch***
- ***Low RMS Noise***
- ***Excellent Beam Quality***
- ***Excellent Power and Wavelength Stability***
- ***ESD and Over-Temperature Protection***
- ***Long Life Time***
- ***Low Power Consumption, < 2W***

Application

- ***Bioanalytical***
- ***DNA Sequencing***
- ***Flow Cytometry***
- ***Medical Imaging***
- ***Capillary Electrophoresis***
- ***Confocal Microscopy***
- ***Particle Counting***
- ***Interferometry***
- ***Printing (Reprographics)***

ISO9001:2000 Registered

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Specification

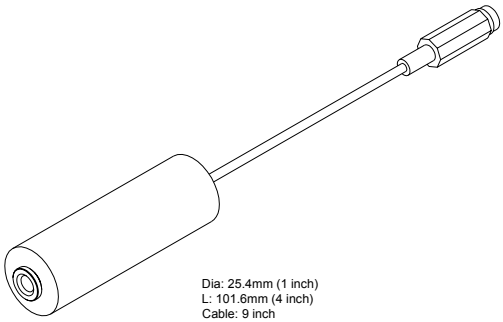
Optical	Wavelength	532 nm
	Power Stability	<0.5%
	RMS Noise (0~20 MHz)	<0.5%
	P-P Noise	<5% over 8hrs
	Spatial Mode	TEM_{00}
	M^2	< 1.1
	Beam Diameter @ $1/e^2$	< 1.2 mm
	Beam Divergence	< 1 mrad
	Beam Shape	Circular (1:1.1)
	Pointing Stability	< ±25 µrad
	Polarization Ratio	> 100:1 (higher ratio upon request)
Electrical	Operating Voltage	3.3 V DC
	Operating Current	<0.5 A
	Driving Circuit	Auto Power Control
	Electrical Connections	connector
	Power Consumption	< 2W
	Warm up time	< 1 min
Mechanical	Dimension (Length x Dia) mm	101.6mm x 25.4 mm
	Weight	95 g
	Operating Temperature	10ºC to +40°C *
	Storage Temperature	-10ºC to +50°C
	Heat Sink Requirements	Recommended for extended use

****Thermal Management** TECGL Series Laser System is designed to dissipate heat through its body. For proper cooling, do not restrict air circulation around the device.

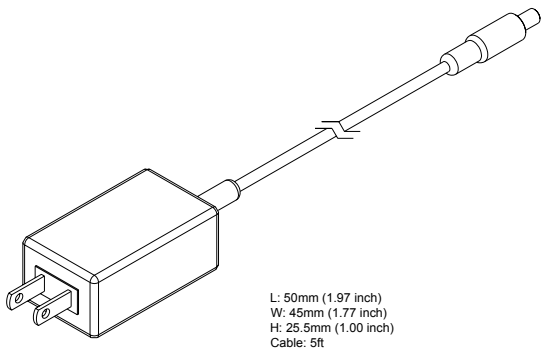
An additional heat sink should be used to maximize the performance of the laser system if the operating temperature is more than 30ºC.

Mechanical Drawing

Laser



Power Supply



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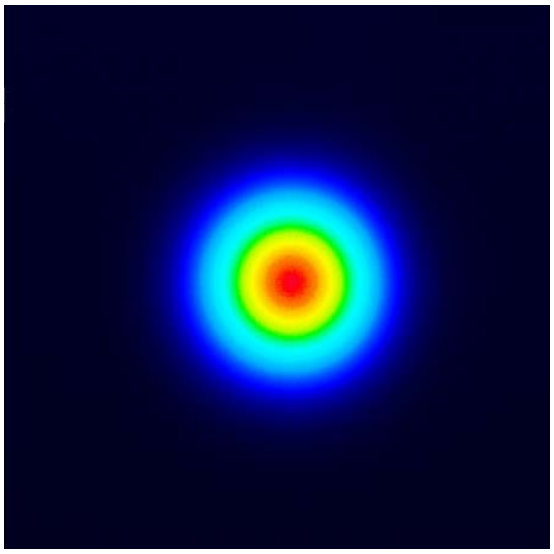
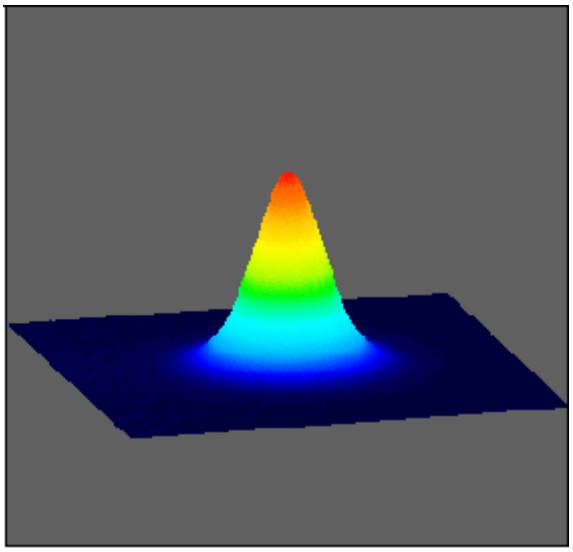
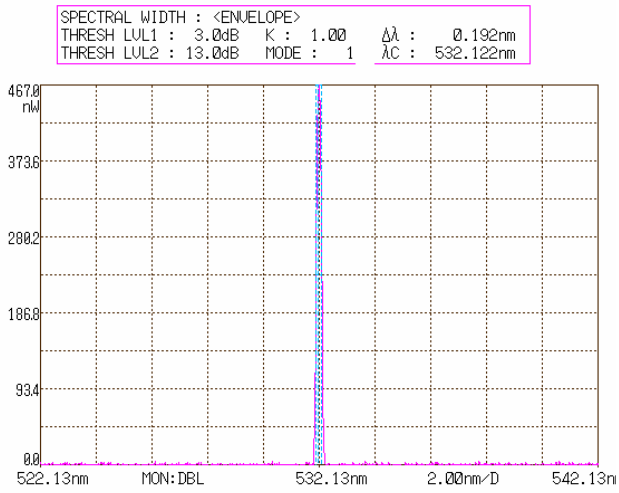
Typical Characteristics

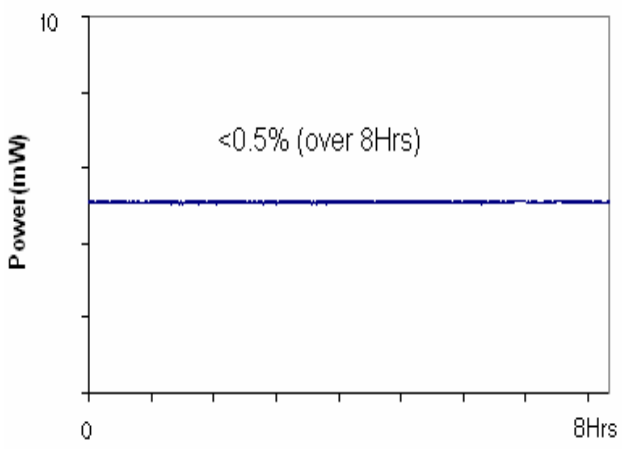




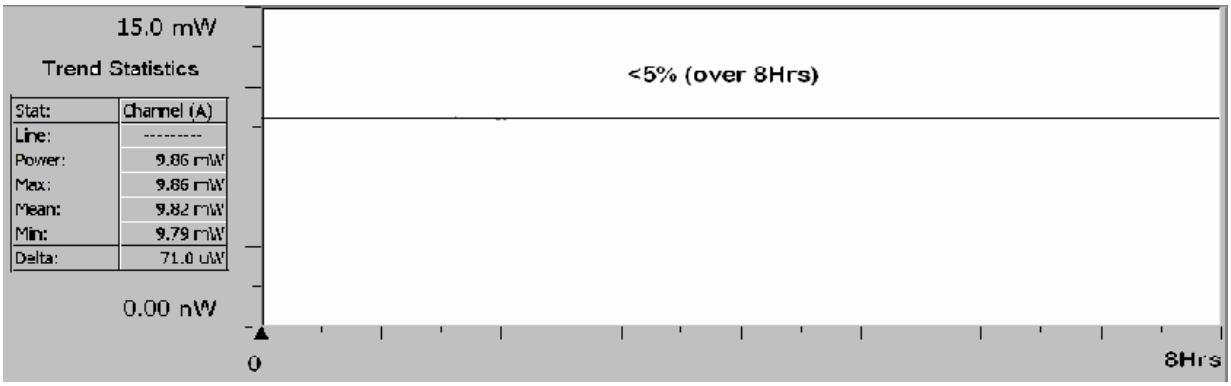
Beam Profile



Wavelength



Power Stability



Peak to Peak Noise

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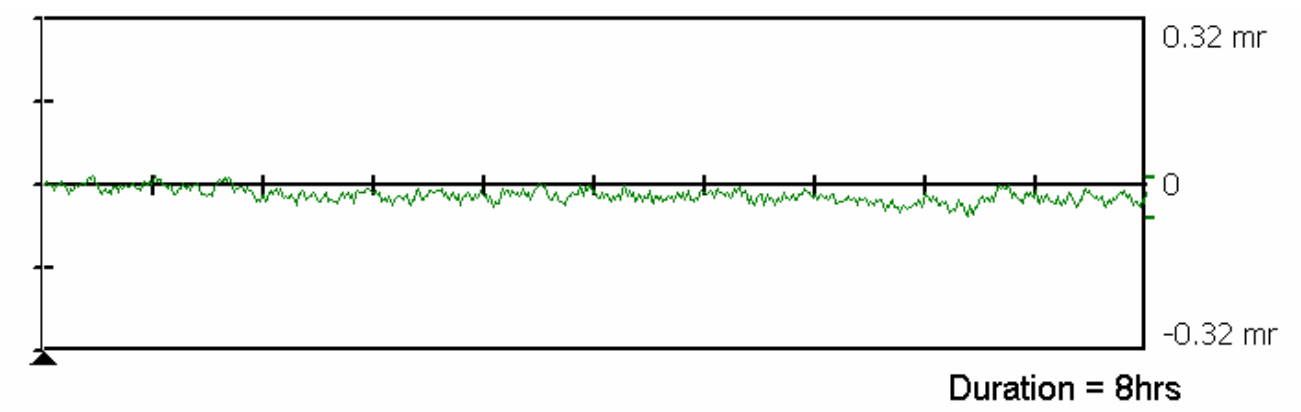

Beam Pointing Stability

Order Information

Part No.	Power(mW)	Class	Operation Mode
TECGL-O1*	1	II	CW
TECGL-05*	5	IIIa	CW
TECGL-10**	10	IIIb	CW
TECGL-20**	20	IIIb	CW
TECGL-30**	30	IIIb	CW

TTL option is available upon request, it can operate from CW up to 155MHz, and the part No. will add –TTL, e.g. TECGL-05-TTL.
PV option is available upon request and the part No. will add –PV, e.g. TECGL-05-PV.

*Complies with CDRH 21CFRH 1040.10
** Module components sold solely for use in OEM equipment, OEM is responsible for compliance with all applicable safety regulations.

Operational Hazard-Semiconductor Laser Diode Module: This laser module emits radiation that is visible and harmful to human eye. When in use, do not look directly into the laser emitting aperture. Direct viewing of laser diode emission at close range may cause eye damage.

Limited Warranty: One year. No warranty coverage for disassembly, modifications or damage due to abuse or misapplication.

Rev.B Oct. 2004