

High Power Mid-IR DPSSL Module

DPM-15

- Ultra-Stable High Power Mid-IR Laser
- Highly Efficient Diode Pumping
- Ideal for Fiber Coupling $\leq 200 \mu\text{m}$
- No High-Voltage Required
- Maintenance Free



Product Description

The Er:YAG laser provides amazing results in biological tissue applications. Due to the high absorption in water the laser is highly efficient in soft and hard tissue ablation. The average output power of up to 15 W at repetition rates of up to 2 kHz allows controlled and precise treatment in various application areas. The innovative diode pumped design

ensures highly reliable operation and thus no maintenance. Furthermore, considerably less waste heat is produced and therefore the cooling system generates negligible noise, compared to the well established flash-lamp pumped systems. The optional fiber-guided beam provides a convenient source for every day work.

Applications

Medical

Dermatology

- Reduction of Scars and Wrinkles
- Skin Resurfacing

Orthopedics

- Bone and Cartilage Ablation

Dental

- Cavity Preparation
- Plaque Removal
- Soft Tissue Coagulation

Industrial

Textile

- Cutting
- Perforation

Plastics

- Welding
- Cutting

Analytics

- MALDI
- Gas Detection

DPM-15

Specifications (Start of Life)

Optical Parameters

Wavelength	2940 nm	(other wavelengths on request)
Average Output Power	up to 15 W	
Pulse Energy	up to 50 mJ	
Pulse Repetition Rate	up to 2 kHz	
Pulse Duration	1 to 200 μ s	
Duty Cycle (max)	10 %	
Mode of Operation	QCW	
Beam Quality	$M^2 < 20$	(typ < 15)
Efficiency (optical-optical)	~ 10 %	
Power Fluctuation (rms)	< 1 %	

Electrical Parameters

Diode Forward Voltage	< 20 V	
Diode Forward Current	max 200 A Pulsed	
Average Power Consumption (max)	< 450 W	
max Ripple / Overshoot	< 5 %	

Cooling Requirements

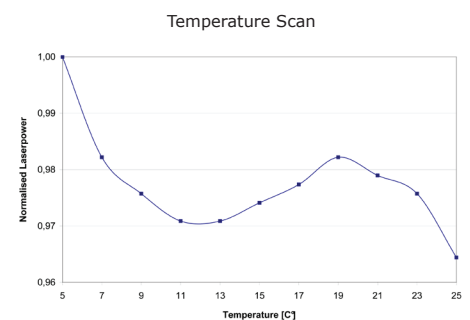
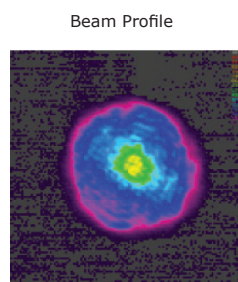
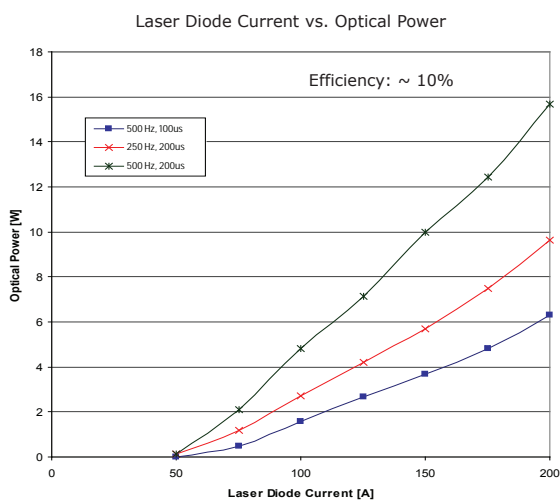
Coolant	Distilled Water with Algaecide and Corrosion Inhibitor	
Coolant Temperature	20 to 25 $^{\circ}$ C	
Coolant Temperature Stability	\pm 0,5 $^{\circ}$ C	
Coolant Flow Rate	\geq 4 lpm	
Coolant Pressure	\geq 2,1 bar	
Required Cooling Power	\geq 540 W @ 25 $^{\circ}$ C Environment Temperature	

Environmental Requirements

Humidity	10 to 85 % RH, non Condensing	
Temperature Range	15 to 45 $^{\circ}$ C	

Mechanical Dimensions

W x D x H	120 x 85 x 80 mm	
Emission height	45 mm	



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