

High Power Mid-IR DPSSL Module

DPM-10 (Er:YSGG)

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



Product Description

The world's most powerful diode-pumped Er:YSGG laser module in this size is available for industrial and medical applications. The average output power of 10 W and repetition rates of up to 1 kHz allow controlled and at the same time precise treatments.

Specifications

Optical Parameters

Wavelength	2796 nm
Average Output Power (max)	10 W
Pulse Energy (max)	150 mJ
Pulse Repetition Rate	up to 1 kHz
Pulse Duration	1 to 400 μs
Average Current (max)	8 A
Mode of Operation	Pulsed
Beam Quality	$M^2 < 15$
Efficiency (optical-optical)	$> 10 \%$
Divergence (half angle)	$< 20 \text{ mrad}$
Beam Diameter	1.6 mm
Beam Shape (focus)	top hat like

Cooling Requirements

Coolant	Distilled Water with Algaecide and Corrosion Inhibitor
Coolant Temperature	15 to 20 °C
Coolant Flow Rate	$\geq 4 \text{ lpm}$
Coolant Pressure	(2 - 5) bar
Required Cooling Power	$\geq 300 \text{ W @ } 25 \text{ °C Environment Temperature}$

Mechanical Dimensions

W x D x H	120 x 96 x 75 mm
Emission Height	47.5 mm
Weight	1.5 kg

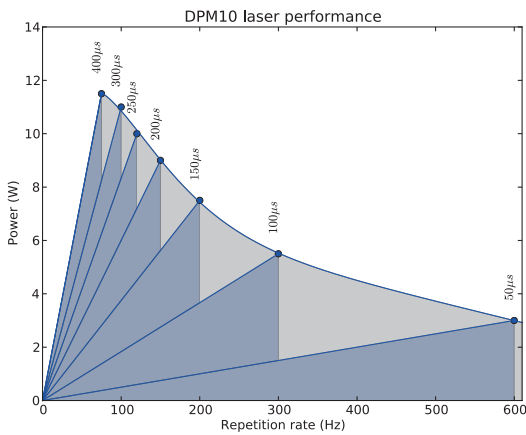
DPM-10 (Er:YSGG)

Specifications

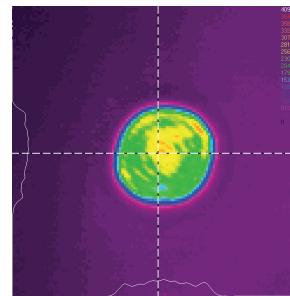
Electrical Parameters

Diode Forward Voltage	~ 20 V
Diode Forward Current	max 260 A (3 % Duty Cycle)
Average Power Consumption (max)	< 250 W
max Ripple / Overshoot	< 5 %

Laser Performance

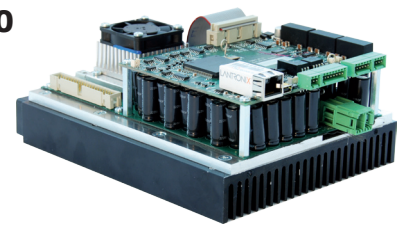


Beam Profile



FACTBOX INTEGRABLE LASER DIODE DRIVER LDD-20300

Recommended for use with DPM-10 (Er:YSGG) laser module



Specifications

Output Current	up to 300 A
Rise Time (10 - 90%)	< 20 µs
Efficiency	> 80 %
Input Voltage	24 VDC
Mechanical Dimensions	200 x 150 x 85 mm (W x D x H)

