

High Power Mid-IR DPSSL Module

DPM-50 (Er:YAG)

- 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:YAG laser module is available for industrial and medical applications. The average output power of up to 50 W and repetition rates of up to 2 kHz allows controlled and at the same time precise treatments.

Specifications

Optical Parameters

	High Power
Wavelength	2940 nm
Average Output Power (max)	50 W
Pulse Energy (max @ 100 Hz)	400 mJ
Pulse Repetition Rate	up to 2 kHz
Pulse Duration	40 to 600 μs
Average Current (max)	25 A
Mode of Operation	Pulsed
Beam Quality	$M^2 < 30$ (optional < 15)
Efficiency (optical-optical)	$\sim 10 \%$
Divergence (half angle)	$< 35 \text{ mrad}$
Beam Diameter	1.6 mm
Beam Shape (focus)	top hat like

Cooling Requirements

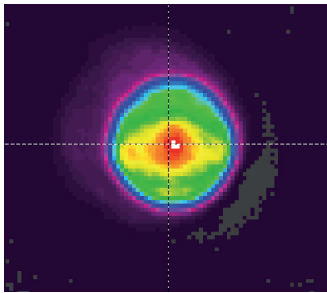
Coolant	Distilled Water with Algaecide and Corrosion Inhibitor
Coolant Temperature	20 to 25 °C
Coolant Flow Rate	$\geq 6 \text{ lpm}$
Coolant Pressure	(3 - 5) bar
Required Cooling Power	$\geq 780 \text{ W @ } 25 \text{ °C Environment Temperature}$

Mechanical Dimensions

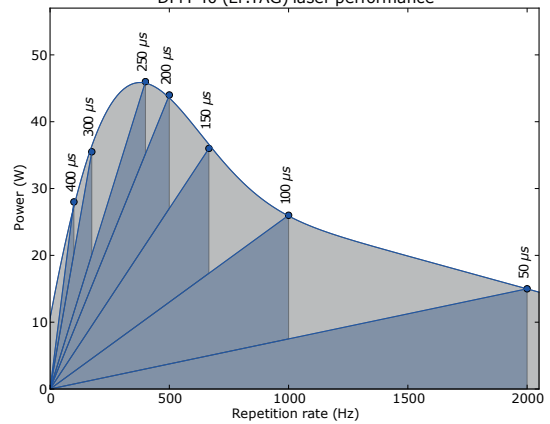
W x D x H	120 x 120 x 75 mm
Emission Height	47.5 mm
Weight	1.7 kg

DPM-50 (Er:YAG)

Beam Profile



DPM-40 (Er:YAG) laser performance

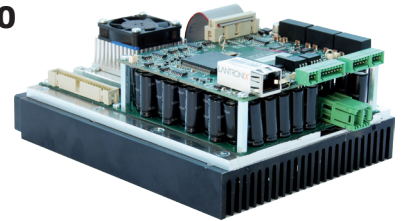


Electrical Parameters

Diode Forward Voltage	~ 30 V
Diode Forward Current	max 300 A Pulsed
Average Power Consumption (max)	< 650 W
max Ripple / Overshoot	< 5 %

FACTBOX CUSTOMIZED LASER DIODE DRIVER LDD-30300

Recommended for use with DPM-50 (Er:YAG) laser module



Specifications

Output Current	up to 300 A
Rise Time (10 - 90%)	< 20 µs
Mechanical Dimensions	200 x 150 x 85 mm (W x D x H)
Additional Features	Safety circuit and communication interface

Subject to change without notice

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2016/05/24

3m.i.k.r.o.n.TM technology is provided by

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