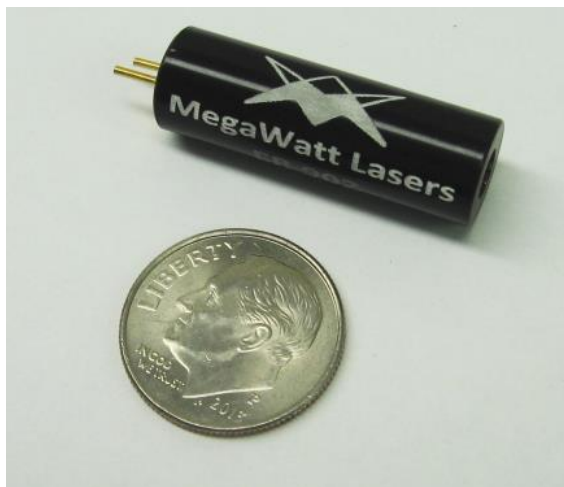


ER902 Miniature Solid State Laser

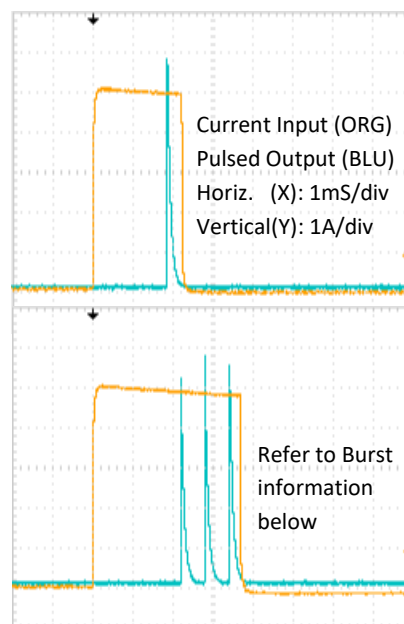
75kW Peak Power 1.54 μm



Erbium	
68	167.259
Er	
[Xe] 4f ¹² 6s ²	
175 pm	589.3 kJ·mol ⁻¹
3, 2, 1	9066 kg·m ⁻³
1.24	1529/2868 °C

Diode-Pumped, Passively Q-Switched, Er:Glass, Packaged

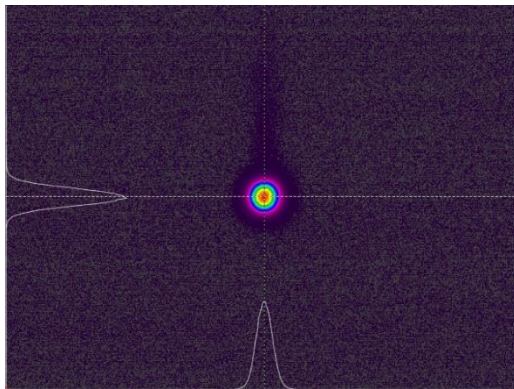
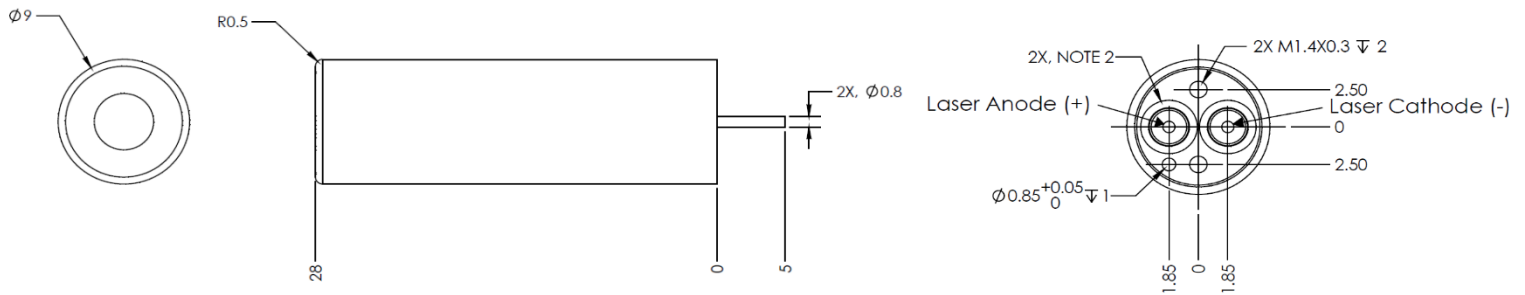
Parameter	Nominal Value
Wavelength	1.535 μm
Pulse Energy	200 μJ nominal
Pulse Width	Approx. 4 ns
Size	9 mm Diameter x 28 mm Length
Laser Classification	Class 1 (ANSI and IEC)
Build up time	~2.0 mS typical
Peak Power	50-75 kW
Repetition Rate	Single Shot to 10 Hz; Burst mode available
Operational Temperature	-40 to 65° C
Beam Quality	< 1.3 Diffraction Limited, TEM ₀₀₀
Divergence	~7 mRad
Power Requirement	≤6 Amp Pulse, 2V
Standby Power	not required
Cooling	not required
Power Requirement	≤6 Amp Pulse, 2V
Lead solder	320°C, 10 Sec maximum



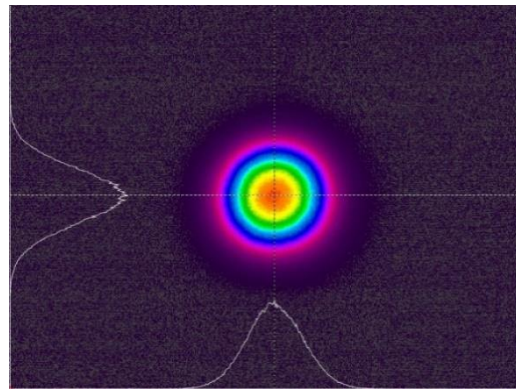
- The ER902 can operate in burst mode up to 3 pulses per burst at 10Hz.
- Burst frequency is between 1-2 kHz. Pulse-to-pulse jitter is a few hundred microseconds due to the passive Q-switch.
- We recommend using a high speed InGaAs photodiode to observe the laser output for T0 timing if necessary.
- For more information, contact sales@megawattlasers.com



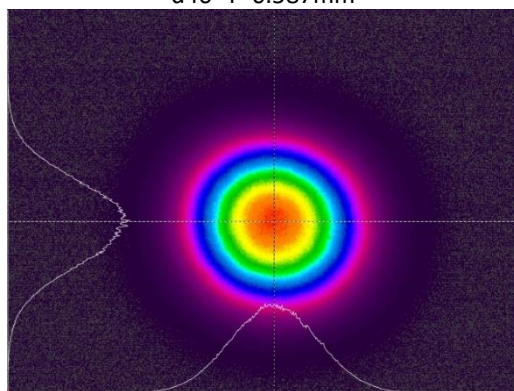
ER902 Beam Propagation



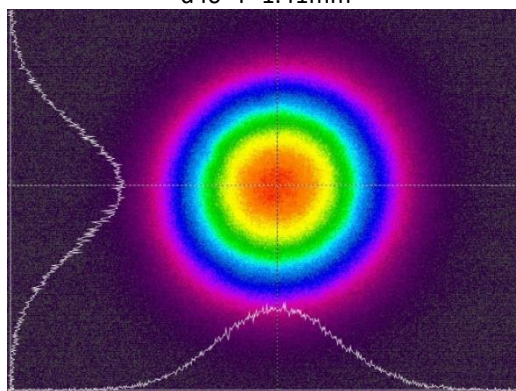
78 mm from Output Coupler
 $d4\sigma^*X=0.679\text{mm}$
 $d4\sigma^*Y=0.587\text{mm}$



180 mm from Output Coupler
 $d4\sigma^*X=1.46\text{mm}$
 $d4\sigma^*Y=1.41\text{mm}$



280 mm from Output Coupler
 $d4\sigma^*X=2.24\text{mm}$
 $d4\sigma^*Y=2.36\text{mm}$



400 mm from Output Coupler
 $d4\sigma^*X=2.96\text{mm}$
 $d4\sigma^*Y=2.92\text{mm}$

$d4\sigma$ Divergence $\approx 7\text{mRad}$
Beam Quality < 1.3 Diffraction Limited