

## ROX™ Series High-Performance Laser Transmitter



### Features

- 1535-nm eye-safe wavelength
- 100  $\mu$ J and 300  $\mu$ J models
- 50 kW peak power
- 3.8 ns pulse width
- 10 Hz pulse rate
- Qualified to MIL-PRF-38535, MIL-STD-833, MIL-STD-750, and MIL-STD-202

### Applications

- Laser rangefinding
- Altimetry
- LADAR/LIDAR

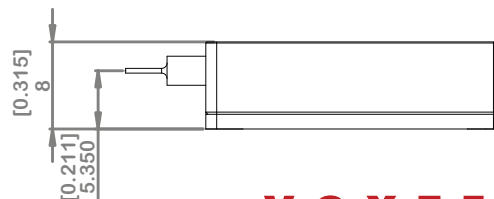
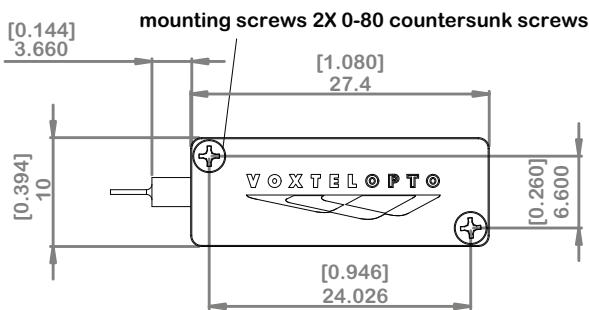
#### **Model LAKx-0DBA: 1535 nm, 3.8 ns**

The ROX™ series of high peak power laser rangefinder (LRF) transmitter (Tx) combines eye-safe operation with high peak power, short pulse duration, and diffraction-limited beam quality to deliver unmatched size, weight, and power—and cost (SWAP-C), range, and accuracy. ROX lasers are specifically designed to be integrated with LRF receivers (Rx).

- **High Peak Power:** Ultra-high damage threshold optics deliver more than 30 kW of peak power in a 3.8-ns pulse for maximum range during poor visibility conditions.
- **Excellent Beam Quality:** Diffraction-limited beam.
- **Optimized Temporal Pulse Shape:** Optimal pulse characteristics provide class-leading range and accuracy with lowest SWAP-C.
- **Solid-state Reliability:** Monolithic, diode-pumped, passively q-switched, erbium-ytterbium-doped glass (Er:Yb:glass) design delivers 200 million lifetime pulses.
- **Integrated Performance:** Combining with the ROX series of ultra-low noise LRF Rx achieves single-shot ranging to 5 km with 0.2 m accuracy.
- **Harsh Environments:** Qualified to MIL-STD-883 and MIL-STD-202.

**Specifications**  
**Diode-Pumped Micro-Laser**

	Model LAKI-0DBA	Model LAKK-0DBA	Conditions
<b>Optical</b>			
Wavelength	1535 nm		
Pulse Energy	100 µJ	300 µJ	at 25°C
Pulse Width	3.8 ns		
Peak Power	30 kW	50 kW	
Pulse Repetition Frequency	10 Hz		
Pulse Build-up Time	3 ms		
Pulse Energy Stability	1%		1000 pulses
Operating Temperature	-40°C to +60°C		
Beam Diameter	0.7 mm	0.9 mm	
Beam Divergence	4.2 mrad	6.0 mrad	
Beam Quality (M <sup>2</sup> )	1.2		
<b>Electrical</b>			
Current	3 A	9 A	
Voltage	2 V		
Power Consumption	0.15 W	0.5 W	10 Hz
<b>Environmental</b>			
Operating Humidity	90% RH		MIL-STD-883 Method 1004
Storage Temperature	-45°C to +80°C		
Shock	1500 g, 0.5 ms		MIL-STD-202 Method 213
Vibration	20–2000 Hz, 20 g		MIL-STD-883 Method 2007
Lifetime (MTTF)	2 x 10E8 shots		Mean time to failure
<b>Mechanical</b>			
Dimensions	27.4 mm x 10.0 mm x 8.0 mm		L x W x H
Beam Alignment Angle	10 mrad		
Weight	8 g	10 g	



**CAUTION**

Class I Invisible Laser  
Radiation Present

Avoid long-term viewing of laser.

