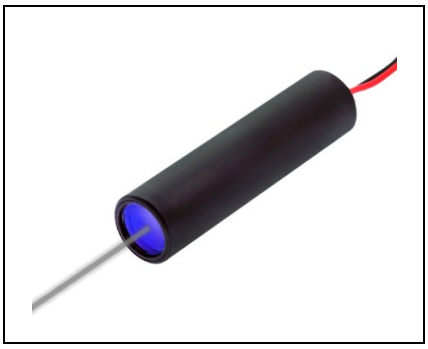
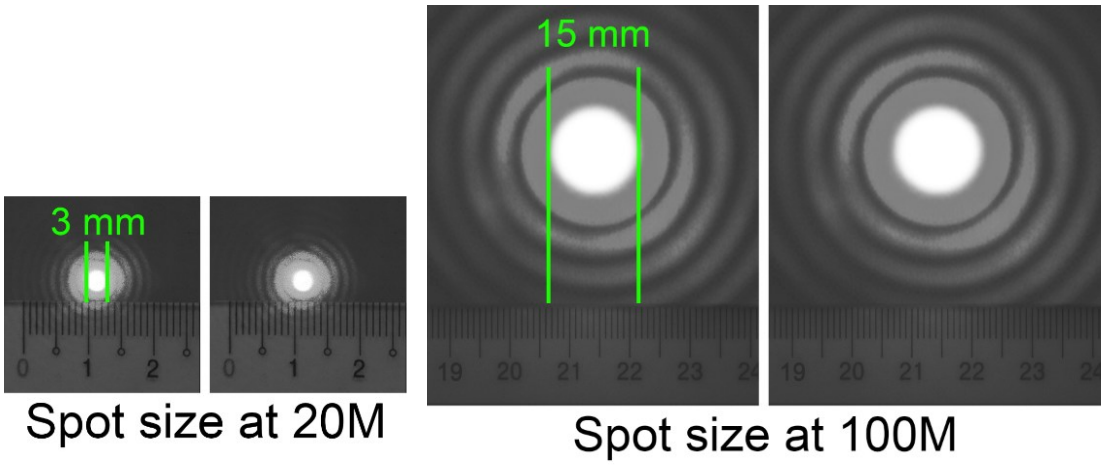
Quarton inc.

Ultra-Far Range Laser

VLM-850/940/1050-17 LPB





FEATURES:

- Ultra-Far Range Round Dot Laser for long range alignment, positioning, measuring and pointing.
- Diffraction Limited Lens to achieve a near-collimated Laser system, which can be sighted Ultra-Far distance range.
- Perfect Round Dot - Ø15mm at 100 meters.
- Anodized aluminum housing provides insulated housing.
- This module has integrated optic, laser diode, and APC driver circuit.
- APC Driver Circuit enables the Laser output power safe and constant.
- Glass-base hybrid lens provides Ultra-Far range Round Dot Laser.
- Dimensions : Ø13 x 50 mm (Ø0.511" x 1.96").
- Wavelength : 850 / 940 / 1050 nm
- Laser power output : LPB - Class 3B - <50mW
- Beam Divergence (Half Angle) : <0.1 mRad
- 3~6 VDC operation.
- Connection type: Lead wire.

VLM-850/940/1050-17 LPB

850 nm Laser (Near-IR): The most popular NIR wavelength. Invisible to the eye but highly compatible with silicon-based detectors, making it ideal for IR cameras and sensors.
Typical Applications: Night vision illumination, eye tracking, industrial sensing, biometric authentication, medical imaging devices.

940 nm Laser (Near-IR, Deep): Fully invisible to the human eye. Provides reduced interference with visible-light imaging systems and enhanced stealth operation.
Typical Applications: Security and surveillance, 3D sensing, gesture recognition, consumer electronics (smartphones, AR/VR), covert eye-safe illumination.

1050 nm Laser (SWIR): Fully invisible, operating in the short-wave infrared (SWIR) band. Offers deeper penetration through materials such as silicon wafers, glass, and plastics, with reduced scattering—making it highly suitable for advanced inspection and imaging. Note: Detection requires InGaAs sensors, as standard silicon detectors are not compatible.
Typical Applications: Wafer and material inspection, spectroscopy, industrial sensing, and biomedical imaging.

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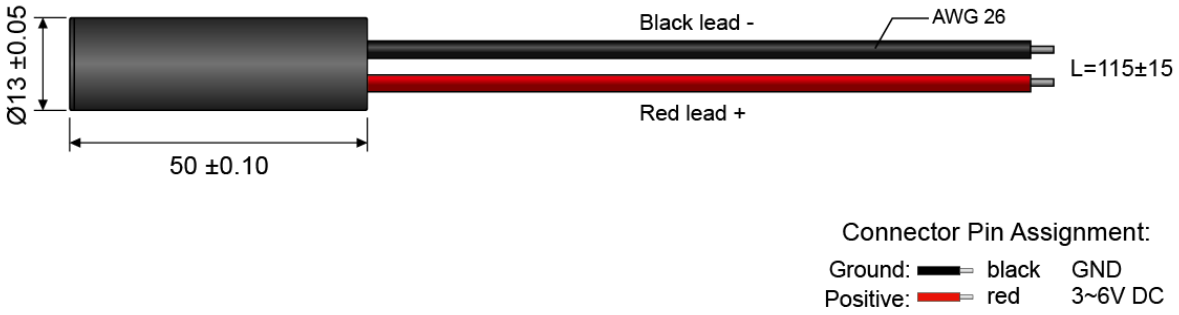
VLM-850/940/1050-17 LPB

OUTLINE DIMENSIONS (UNITS: mm)

Outline (Lead Wire type)



SPECIFICATIONS

SPECIFICATIONS		VLM-850-17	VLM-940-17	VLM-1050-17
		LPB		
1	Dimensions	Ø13 x 50 mm (Ø0.511" x 1.96")		
2	Weight	<15g		
3	Operating voltage (Vop)	3~6 VDC		
4	Operating current (Iop)	Less than 150mA		
5	Laser power output	<50mW		
6	Laser class	Class 3B		
7	Wavelength at peak emission (λp)	840~865nm	930~950nm	1050~1075nm
8	Collimating lens	Aspherical glass lens		
9	Output aperture	8mm		
10	Beam shape	Circular		
11	Spot size at 40M / 100M	Ø5.3mm / Ø15mm		
12	Beam divergence(Half Angle)	Less than 0.1 mRad		
13	Beam alignment*	Less than 3°		
14	Operating temp. range	-10°C ~+50°C		
15	Storage temp. range	-20°C ~+80°C		
16	Housing material	Aluminum		
17	Potential of housing	Insulated		
18	Electrostatic discharge (ESD)	30KV		
19	Moisture sensitivity level (MSL)	Level 1 - acc to JEDEC J-STD-020E.		

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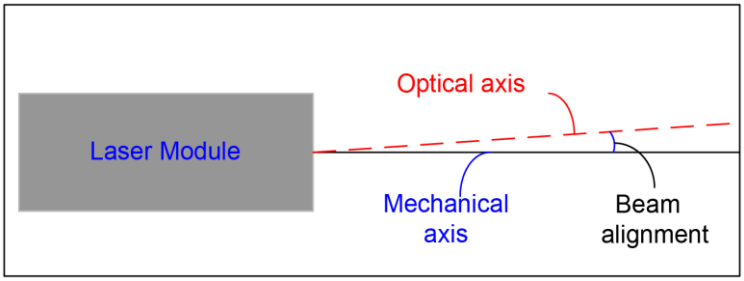
VLM-850/940/1050-17 LPB

20	Protection circuit	Reversed supply circuit protection, over-current protection, surge protection, short circuit protection
21	Vibration resistance	10 to 55Hz,1.5mm amplitude for 2 hours each in X, Y and Z direction
22	Standard	IEC60825:2014
20	Wire type	1007-26AWG
21	Cable length	115±15mm
22	Mean time to failure (MTTF) 25°C	10000hrs
23	Application	Long range application
24	Suggestion work distance	10~500 meters / 40~2000 feet

* Beam alignment:



ORDER CODE

Order Code	Wavelength	Laser Power Output	Laser Class	Connection Type
VLM-850-17 LPB	850 nm	<50mW	Class 3B	Lead Wire
VLM-940-17 LPB	940 nm	<50mW	Class 3B	Lead Wire
VLM-1050-17 LPB	1050 nm	<50mW	Class 3B	Lead Wire

SAFETY LABEL

LPB: