

# ULL Series Red Laser Line Module

Part No: ULL5-0.4P-650-45



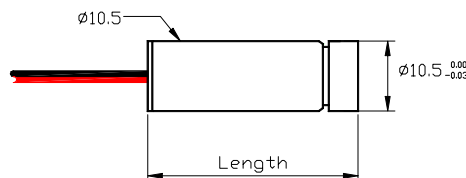
## Product Features

- High Stability and low noise
- Collimated or Adjustable focus beam
- Reverse Polarity Protection
- Custom Options Available

## Application

- Measurement
- Bioanalytical
- Automation
- Alignment

## Mechanical Drawing



## Specification

### OPTICAL

Wavelength	650 nm
Optical Output Power	0.4 mW
Stability	<1%
Laser Class	Class 1 (IEC)
Wavelength Drift	0.2nm/°C
Noise (20MHz Bandwidth)	<0.5% RMS
Laser Operation	Continuous
Laser Structure	Single Mode Laser
Line Thickness	Fixed Focus
Minimum Line Thickness	< 2mm up to 1.5 meter
Pointing Stability	<50µrad

### ELECTRICAL

Operating Voltage <sup>1</sup>	3 to 5 VDC
Operating Current	<60 mA
Control Circuit	Auto Power Control
Electrical Connections	+Red, -Black

### MECHANICAL

Dimension (Dia * Length)	10.5mm * 24mm
Cable	380mm
Operating Temperature	-10°C to +50°C
Storage Temperature	-40°C to +80°C
Heat Sink Requirements <sup>2</sup>	Recommended

### Notes

1. Higher operating voltage version (9 to 12V) is available, the part No. will be: ULL12-0.4P-650-45.

2. Heat Sink: The ULL Series Red Laser Line Module is designed to operate without heat sink. Do not restrict air circulation around the device; an additional heat sink can be used to maximize the performance and life time of the laser.

**Caution:** The case is internally connected to the circuit; damage to the anodized surface may result in failure of the laser module.



Complies with CDRH 21CFR 1040.10

**Operational Hazard-Semiconductor Laser Diode Module:** This laser module emits radiation that is visible and harmful to human eye. When in use, do not look directly into the laser emitting aperture. Direct viewing of laser diode emission at close range may cause eye damage.

**Limited Warranty:** One year. No warranty coverage for disassembly, modifications or damage due to abuse or misapplication.

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