Laser Diode Micro-Module Series (Copper)
LDMM for Powers Greater than 2.0W

Laser Diode Micro-Modules (LDMM) address the need for a simple, robust, reliable, and cost-effective platform on which to mount, provide heat sinking abilities, collimate, and power semiconductor laser diodes. The use of laser diodes in scores of applications has become ubiquitous, and our new products make mounting, collimating, heatsinking, and providing power leads for such applications easier than ever.

Features:

- Small-Size, Precision Machining
- Lightweight
- Inexpensive
- Accommodates **5.6 and 9.0 mm** TO-Can Laser Diode Packages
- Excellent Heat Removal Properties
- Easy Solder Connection of Power Wires
- Simple Mounting
- Accommodates Any M9x0.5 Collimation Lens

Applications:

- Optical Pumping of Solid-State Lasers
- Alignment Applications
- Pointing Applications
- Night Vision Illumination
- Covert Illumination
- Laser Flashlights and Dazzlers
- Medical Alignment
- Signaling Systems
- Warning, Safety, Hailing Systems
- Laser Alignment
- Cell Sorting
- DNA Sequencing
- Microscopy
- Drones
- Robotic Systems

Description:

The LDMM comprises a copper body and a rear copper diode plate that is used to secure the diode into the body and provide heat-sinking, and a square printed-circuit board that is mounted directly adjacent to the diode plate to which leads are soldered. The body contains a threaded cylindrical hole (M9x0.5mm) accessed from the front (output) face of the module, that is used to provide mounting for and the axial adjustment of the collimation lens. The LDMM also has two threaded mounting holes (M3x0.5mm) on the bottom face of the module for mounting on a heat sink, and four threaded mounting holes (M2x0.4mm) on the output face for the same purpose.
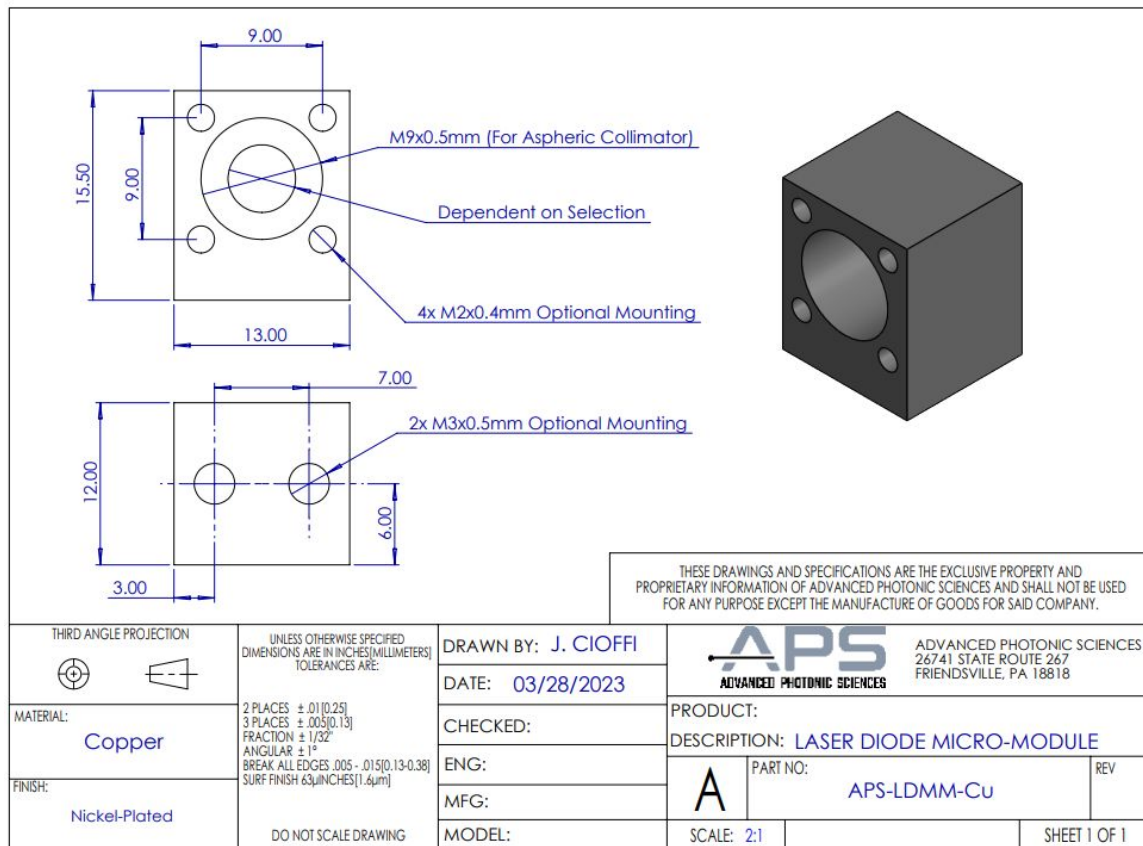
Our LDMM's can be used for stand-alone applications, or can be easily integrated into customer devices. For example a stand along LDMM can be used in the laboratory to provide an alignment laser for a wide variety of applications and wavelengths. Our modules may also be used as educational tools, to teach students about the use of laser diodes, how they are connected and driven electrically, how to collimate the diode output, and how to provide heat-sinking. Modules can be provided that are eye-safe and CDRH compliant, making their use as educational tools easy. Commercial, military, and medical and bio-medical applications abound.

Virtually any diode that is mounted in a 5.6, or 9.0 mm TO-can be mounted and collimated using our LDMM. We can provide any quantity of custom modules, collimated or uncollimated, to customers on a proprietary basis, using APS or customer-bought laser diodes. We will characterize any laser diode in our LDMM package without cost to any serious customer, at any wavelength from 375 to 2000 nm. We can provide the complete assembly, wire pair pigtailing, and full testing of each LDMM.

![APS - Advanced Photonic Sciences]

Advanced Photonic Sciences
26741 State Route 267
Friendsville, PA 18818

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Mechanical Specifications

Dimensions on drawing:
- 9.00
- 15.50
- 9.00
- 13.00
- M9x0.5mm (For Aspheric Collimator)
- Dependent on Selection
- 4x M2x0.4mm Optional Mounting
- 7.00
- 12.00
- 2x M3x0.5mm Optional Mounting
- 6.00
- 3.00

THIRD ANGLE PROJECTION

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MATERIAL: Copper	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES[MILLIMETERS] TOLERANCES ARE:
FINISH: Nickel-Plated	2 PLACES ±.01[0.25] 3 PLACES ±.005[0.13] FRACTION ±1/32° ANGULAR ±1° BREAK ALL EDGES .005 - .015[0.13-0.38] SURF FINISH 63µINCHES[1.6µm]

DO NOT SCALE DRAWING

DRAWN BY: J. CIOFFI
DATE: 03/28/2023
CHECKED:
ENG:
MFG:
MODEL:

ADVANCED PHOTONIC SCIENCES
26741 STATE ROUTE 267
FRIENDSVILLE, PA 18818

PRODUCT:
DESCRIPTION: LASER DIODE MICRO-MODULE

A   PART NO: APS-LDMM-Cu   REV

SCALE: 2:1   SHEET 1 OF 1

Notes:

1. This OEM Laser Diode Micro-Module (LDMM-Cu) is meant for integration into other systems, and as such is not CDRH compliant.
2. Laser Class depends on diode being used with the LDMM-Cu product.
3. Specifications and information herein are subject to change without notice.
4. Please inquire about custom specifications such as control board, wire length, termination connector, or other custom requirements.
5. APS offers a limited warranty. Please refer to its' Warranty Statement/Return Policy for details.
6. Always use laser safety glasses with sufficient Neutral Density at the operating wavelength to protect eyes. Skin exposure should be avoided when working with lasers.
7. For assistance with integration issues, purchasing, or custom solutions, please contact our experienced applications team at info@apslasers.com

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