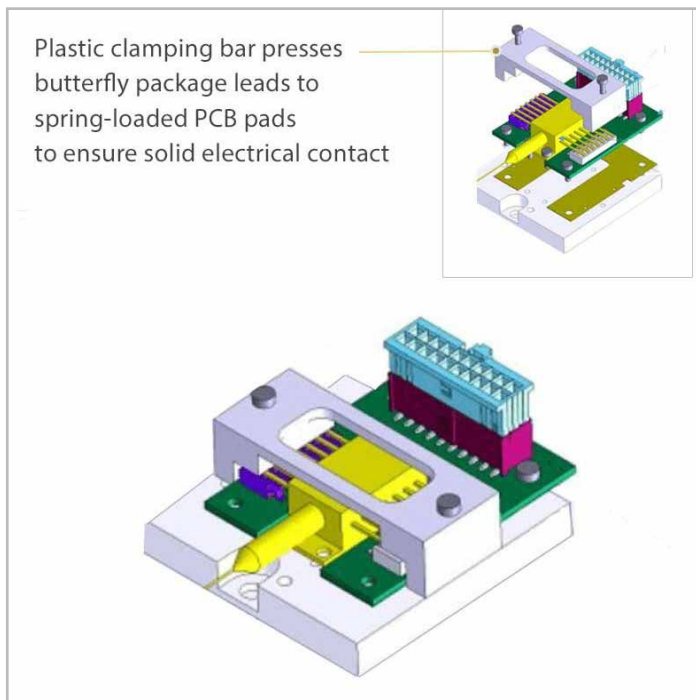


## BA-0x Series Butterfly Laser Diode Mount Simple and Robust Butterfly Mounting Interface



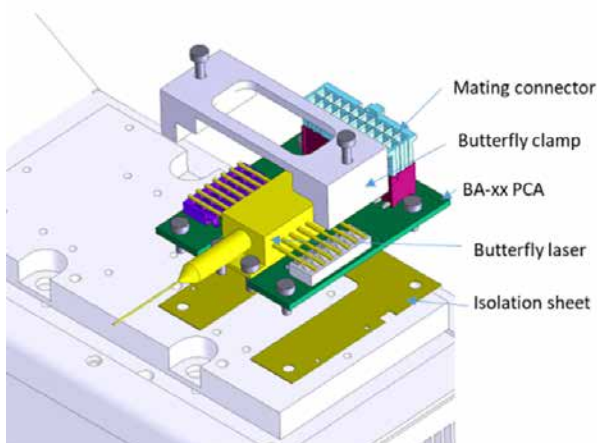
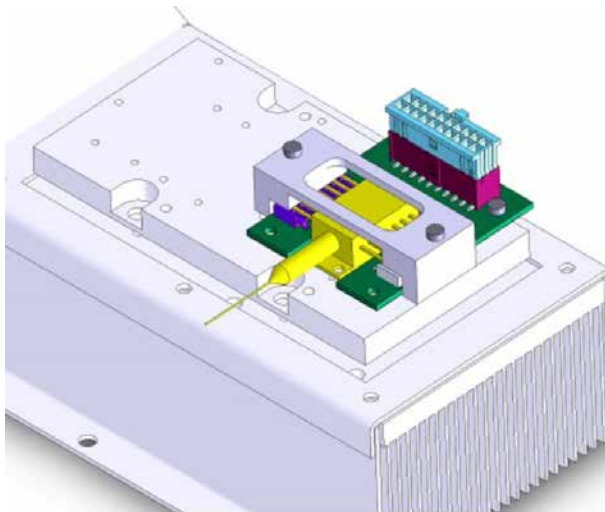
### BA-0x Butterfly Mount

- o Compatible with 14-pin and 10-pin Butterfly Laser Diode Packages
- o Zero-Insertion Force Socket for Fast and Easy Connection
- o Two Models Available:  
BA-01 for Pump Laser Modules  
BA-02 Universal Mount
- o Plastic Clamp Ensures Solid Thermal and Electrical Connection
- o Designed for Drop-In Assembly to OCP-050A Laser Diode Mount and Heatsink

## BUTTERFLY LASER MOUNTING

The BA-0x Butterfly Laser Diode Mounts provide electrical connections and a robust thermal contact to the surface of the cooling plate. Zero Insertion Force (ZIF) electrical PCB headers are spring loaded to maintain electrical continuity. The height of the electrical contacts matches the height of the pins on the butterfly laser package, so there's no mechanical stress to the pins or package.

An isolation sheet is included to electrically insulate the laser package from the coldplate while providing improved thermal contact.



## DIODE COOLING INTERFACE GUIDELINES

The heat removal performance of the heatsink is sensitive to the quality of the thermal interface between the cold plate and the laser diode module.

The cold plate is made of copper with very low spreading resistance, and using dry interface materials will help considerably to form a uniform heat conduction interface.

If the laser diode set temperature is significantly below ambient, we recommend insulating the module on the top of the cold plate. Thermal insulation materials such as silicone foam or ceramic-based insulation work well to insulate laser from ambient.

## MOUNTING INSTRUCTIONS

When handling electronic components, and particularly when installing the butterfly laser diode, observe proper ESD practices at all times. Use a grounding wrist strap, grounded work surface, etc.

Place the thin isolation sheet on mounting surface. Align the four holes in the corners of the isolation sheet with the 2-56 threaded holes in the coldplate. The OCP-050A Heatsink is pre-drilled for the BA-0x Butterfly Laser Diode Mounts.

Place the BA-0x circuit board assembly over the isolation sheet, and fasten with four provided 2-56 x 0.25" screws. Lightly tighten the screws to "finger tight."

Place the butterfly laser on the mounting surface and align the mounting holes and the pins, and tighten it down with 4 provided 2-56 x 0.25" screws. Tighten to the laser manufacturer's recommended torque specification.

Place the plastic clamp on top of the butterfly/BA-0x PCA, align the mounting holes and screw the clamp with the two provided 2-56 x 0.75" screws. Overtightening the clamp will not improve thermal contact.

### BUTTERFLY MOUNT CONNECTIONS

The BA-01 Pump Butterfly Mount is easily installed on the DBC-050A heatsink. The wiring configuration is pre-determined for the most common industry standard for 14-pin butterfly pump lasers.

The BA-02 butterfly laser mount is universal, and can be adapted to suit any 14-pin butterfly laser package wiring configuration. The J4 jumper on the BA-02 configures the ZIF.

### 20-PIN HEADER SPECIFICATION

The 20-pin header on the PCB is the SAMTEC IPL-1-110-02-S-D.

To connect to the header use SAMTEC part number IPD1-10-D-K.

### PIN CONNECTIONS - 20-PIN SAMTEC CONNECTOR TO 14-PIN ZIF SOCKETS

SAMTEC Pin	BA-01 Pinout		BA-02	Heatsink Function
	ZIF Pin No.	Laser Function	ZIF Pin No.	
1	5	Thermistor	1	-
2	4	PD Cathode -	2	-
3	3	PD Anode +	3	-
4	2	Thermistor	4	-
5	1	TEC +	5	-
6	-	-	6	BA-01: Cold Plate Thermistor
7	-	-	7	BA-01: Cold Plate Thermistor
8	14	TEC -	8	-
9	13	Case Gnd	9	-
10	n/c	-	10	-
11	11	Laser Cathode -	11	-
12	11	Laser Cathode -	Pin 12 w/ pins 2 & 4 of J7 SHORTED	BA-02: Fan + w/ pins 2 & 4 of J7 OPEN
13	12	Laser Anode +	Pin 13 w/ pins 1 & 3 of J7 SHORTED	BA-02: Fan - w/ pins 1 & 3 of J7 OPEN
14	12	Laser Anode +	-	-
15	-	-	-	Cold Plate Fan +
16	-	-	-	Cold Plate Fan -
17	-	-	-	Cold Plate TEC +
18	-	-	-	Cold Plate TEC +
19	-	-	1	Cold Plate TEC -
20	-	-	14	Cold Plate TEC -

## BA-0X SPECIFICATIONS

### GENERAL SPECIFICATIONS

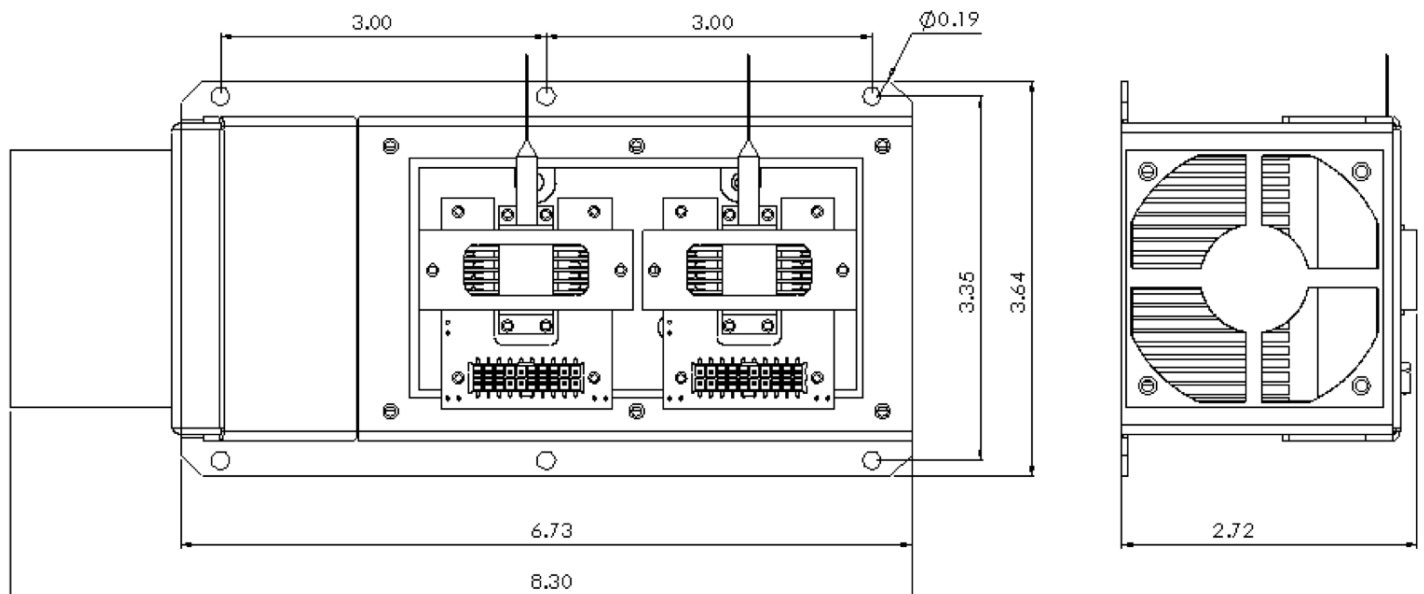
Laser Diode Anode and Cathode Current Rating (limit): 4 Amps  
 Laser Diode Pin Configuration: Customer Set through PCB Header Connector  
 TEC Current Rating (limit): 6 Amps  
 PCB Kit Dimensions: 40mm x 50mm  
 Mounting Screws: Included  
 Plastic Clamping Adapter Bracket: Included  
 Heat Sink Base: Customer Supplied

### INCLUDED IN SHIPPING KIT

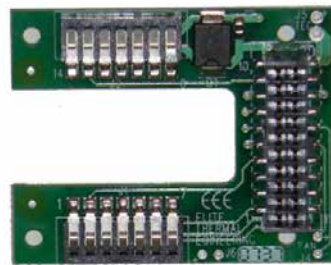
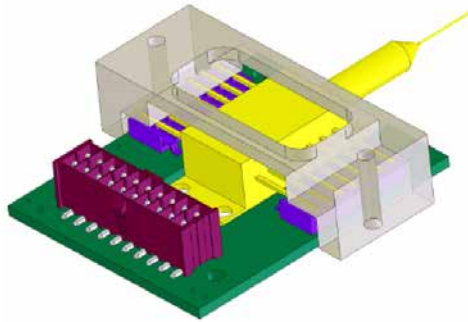
Butterfly packaged laser mounting PCB with universal header connector  
 Plastic clamping bracket  
 All required screws for securing PCB and plastic mounting bracket to heat sink  
 Form-cut (to PCB footprint) thermal interface pad to ensure good thermal contact to heat sink and provide electrical isolation

## BA-0X MOUNTS / OCP-050A HEATSINK

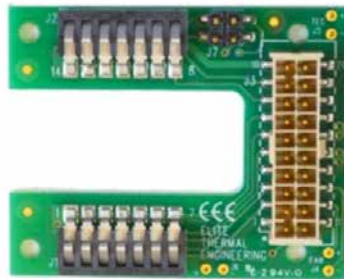
The BA-0x mounts are designed to install directly on the OCP-050A Laser Diode Mount and Heatsink. The mechanical drawing below illustrates the OCP-050A with two BA-0x mounts installed. Any combination of two BA-0x mounts can be installed on the OCP-050A, making it the ideal solution for laboratory and R&D applications requiring a dual butterfly laser diode mount. Inquire regarding our SBC-050A and DBC-050A laser diode mounting solutions.



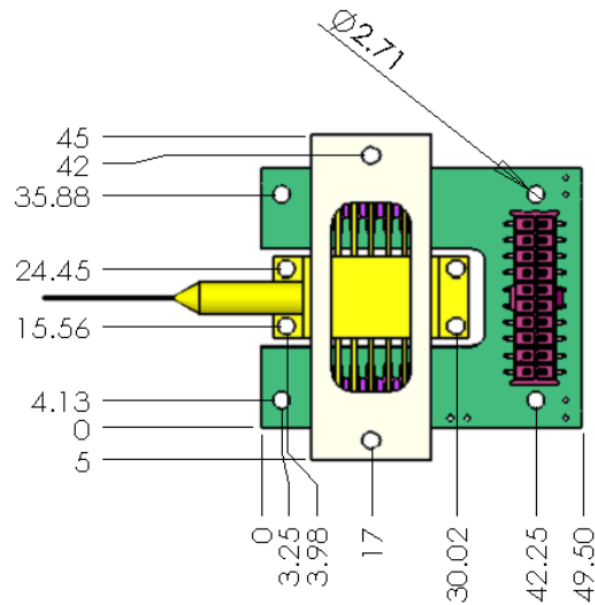
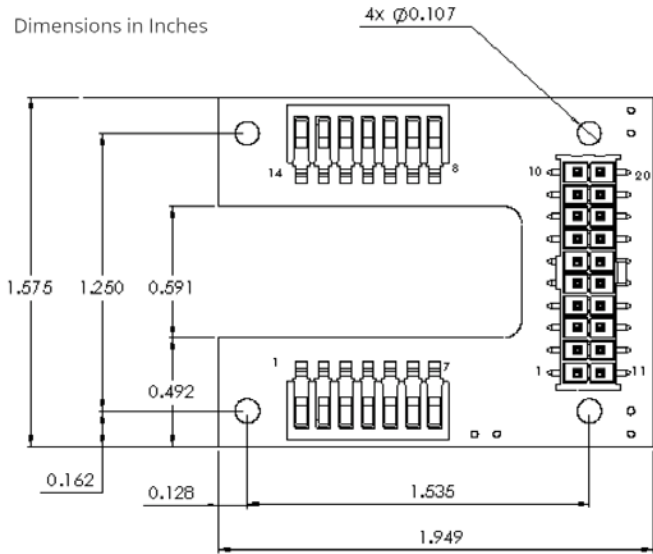
**MECHANICAL LAYOUT AND DIMENSIONS, BA-01 AND BA-02**



**BA-01**



**BA-02**



**BA-0x mounting pattern (mm)**

## PRODUCT SALES AND SERVICE

Unlimited phone and email support is provided for products purchased through Laser Lab Source. Orders for this product are fulfilled by Laser Lab Source in North America and select international regions.

## PRODUCT WARRANTY

This product is sold with a full one-year warranty. It is warranted to be free from defects in material and/or workmanship for a period of one year from the date of shipment. The warranty does not cover damage to the to the product due to mishandling or use of the product outside of its specified maximum ratings.



Laser Lab Source, Inc  
1820 W. Lincoln Street  
Bozeman, MT 59715  
[contact@LaserDiodeSource.com](mailto:contact@LaserDiodeSource.com)  
[contact@LaserDiodeControl.com](mailto:contact@LaserDiodeControl.com)  
800-877-5065