WAVELENGTH ELECTRONICS

MULTI-HTSK

Heat Sink

RoHS Compliant

GENERAL DESCRIPTION:

The Heat Sink is designed to support a range of Wavelength products during product evaluation.

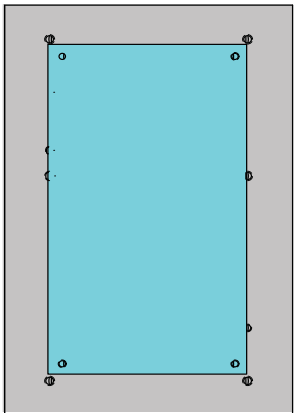
A chart is provided on page 2 to calculate acceptable operating range for each Wavelength product model supported.

FEATURES:

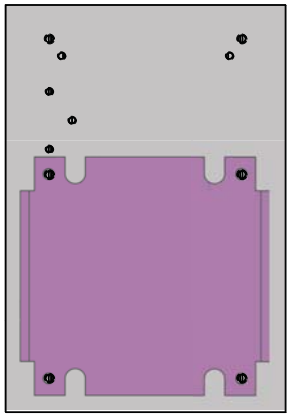
- Supports multiple product packages
- Excellent thermal conductivity
- Includes mounting hardware and one package of thermal paste

For Use With

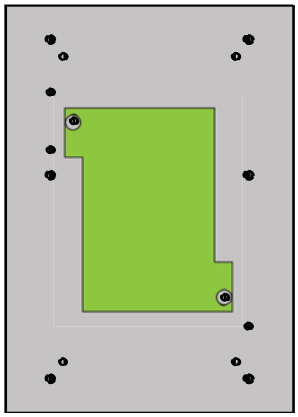
LDTC0520	0.5 Amp Laser Driver with Temp Control
LDTC1020	1.0 Amp Laser Driver with Temp Control
LDTC 2/2 E	2.2 Amp Laser Driver with Temp Control
MPT2500	2.5 Amp Temperature Controller
MPT5000	5 Amp Temperature Controller
PTC2.5K-CH	2.5 Amp Temperature Controller
PTC5K-CH	5 Amp Temperature Controller
PLD5K-CH	5 Amp Laser Diode Driver
MPL250	0.25 Amp Laser Diode Driver
MPL500	0.5 Amp Laser Diode Driver
MPL2500	2.5 Amp Laser Diode Driver



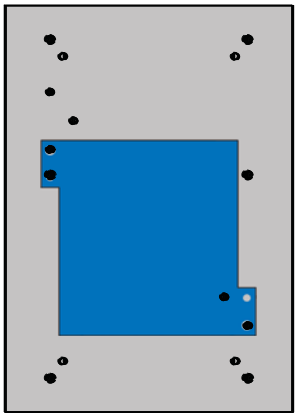
LDTC 2/2 E



MPT & MPL Series



PLD-CH & LDTCxx20 Series



PTC-CH Chassis Mount Series

HEAT SINK MOUNTING WITH WAVELENGTH ELECTRONICS PRODUCTS

A single heat sink model is provided for a broad range of products. Wavelength products can be mounted on the heat sink as shown above.

Thermal paste should be applied evenly across the mounting area, prior to mounting.

THERMAL PERFORMANCE

NATURAL CONVECTION

With “natural convection” (no fan), the maximum internal dissipated power of a device on this heat sink is less than 18 W. The still air configuration can lead to thermal runaway above the 18 W range.

FORCED CONVECTION

With forced air, the maximum dissipated power of a device on this heat sink is as much as 40 W, depending on air flow. The range depends on the distribution of power between the drive transistor(s) and the sense resistor(s), the supply voltage, and the load characteristics.

The chart below provides a means to calculate the worst case internal power dissipation for your application and ensure proper operation within the Safe Operating Area (SOA).

A. Enter your supply voltage (V), laser diode or thermoelectric voltage (V), and operating current (A) in the columns provided (1, 2 and 3).

B. Calculate the internal power dissipation by subtracting column 2 from column 1 (V_{SUPPLY} - V_{LOAD}), then multiplying the voltage (V) by the current (A) entered in column 3. This equals the maximum internal power dissipation in Watts.

C. Enter the calculated value into column 4.

D. Compare the calculated value with the performance specifications shown in columns 5 through 7 to confirm operation with and without flow.

The forced air specifications are based on 10 CFM air flow through the fan with an ambient temperature of 25 °C. Maximum heat sink temperature is 50 °C. Thermal paste is used on all contacting surfaces.

	1	2	3	4	5	6	7
MODEL NUMBER	(SUPPLY VOLTAGE	- TE or DIODE VOLTAGE DROP (worst case))	X OPERATING CURRENT (fill in application specific value)	= CALCULATED INTERNAL POWER DISSIPATION	ABSOLUTE MAX POWER DISSIPATION (per datasheet)	MAXIMUM POWER DISSIPATION with MULTI-HTSK-HI and 10 CFM FAN	MAXIMUM POWER DISSIPATION with MULTI-HTSK-HI and NATURAL CONVECTION
LDTC0520					11 W	11 W	11 W
LDTC1020					13 W	13 W	13 W
LDTC2/2 E					18 W	18 W	18 W
MPT2500					15 W	15 W	9 W
MPT5000					30 W	30 W	9 W
PTC2.5K-CH					60 W	30 W	10 W
PTC5K-CH					60 W	30 W	10 W
PLD5K-CH					15 W	15 W	9 W
MPL250					4 W	4 W	4 W
MPL500					8 W	8 W	6 W
MPL2500					40 W	40 W	6 W

A utility to calculate the Safe Operating Area (SOA) for your unit can be found online at:
http://www.teamWavelength.com/support/calculator/soa/soald.php (laser diode drivers) or
http://www.teamWavelength.com/support/calculator/soa/soatc.php (temperature controllers)

ASSEMBLY INSTRUCTIONS

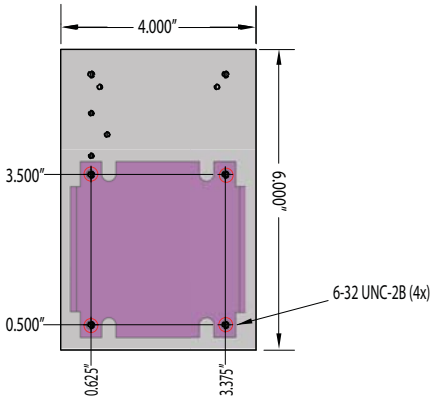
1. Clean all surfaces where the product will contact the heat sink.

2. Spread the thermal paste on the surface of the product that will contact the heat sink.

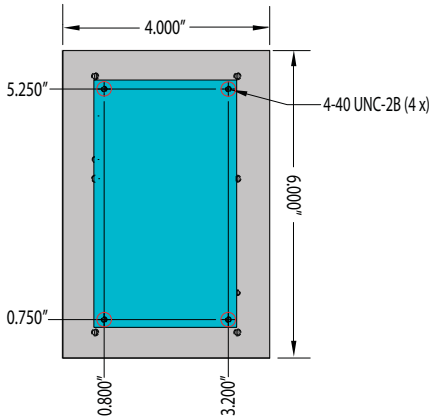
   Thermal paste is available from Wavelength Electronics, P/N THERM-PST. One package is provided with purchase of the heat sink.

3. Secure the product to the heat sink with screws as shown by the red circles.

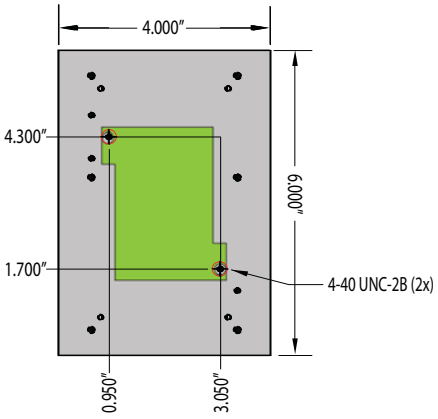
LDTC 2/2 E



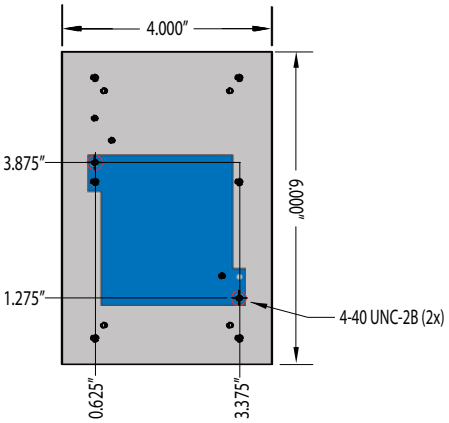
MPT & MPL Series



PLD-CH & LDTCxx20 Series

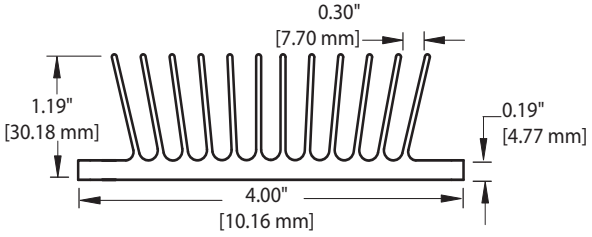


PTC-CH Chassis Mount Series



The diagram to the right shows the fin spacing on the heat sink when viewed from the end.

The heat sink measures 4 x 1.19 x 6 inches.
Thermal resistance (°C/W at 6" length): 1.57.



All dimension tolerances are ±0.01 inches.

CERTIFICATION AND WARRANTY

CERTIFICATION:
Wavelength Electronics, Inc. (Wavelength) certifies that this product met it's published specifications at the time of shipment. Wavelength further certifies that its calibration measurements are traceable to the United States National Institute of Standards and Technology, to the extent allowed by that organization's calibration facilities, and to the calibration facilities of other International Standards Organization members.

WARRANTY:
This Wavelength product is warranted against defects in materials and workmanship for a period of 90 days from date of shipment. During the warranty period, Wavelength will, at its option, either repair or replace products which prove to be defective.

WARRANTY SERVICE:
For warranty service or repair, this product must be returned to the factory. An RMA is required for products returned to Wavelength for warranty service. The Buyer shall prepay shipping charges to Wavelength and Wavelength shall pay shipping charges to return the product to the Buyer upon determination of defective materials or workmanship. However, the Buyer shall pay all shipping charges, duties, and taxes for products returned to Wavelength from another country.

LIMITATIONS OF WARRANTY:
The warranty shall not apply to defects resulting from improper use or misuse of the product or operation outside published specifications.

No other warranty is expressed or implied. Wavelength specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

EXCLUSIVE REMEDIES:
The remedies provided herein are the Buyer's sole and exclusive remedies. Wavelength shall not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory.

REVERSE ENGINEERING PROHIBITED:
Buyer, End-User, or Third-Party Reseller are expressly prohibited from reverse engineering, decompiling, or diassembling this product.

NOTICE:
The information contained in this document is subject to change without notice. Wavelength will not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material. No part of this document may be photocopied, reproduced, or translated to another language without the prior written consent of Wavelength.

SAFETY:
There are no user serviceable parts inside this product. Return the product to Wavelength for service and repair to ensure that safety features are maintained.

LIFE SUPPORT POLICY:
As a general policy, Wavelength Electronics, Inc. does not recommend the use of any of its products in life support applications where the failure or malfunction of the Wavelength product can be reasonably expected to cause failure of the life support device or to significantly affect its safety or effectiveness. Wavelength will not knowingly sell its products for use in such applications unless it receives written assurances satisfactory to Wavelength that the risks of injury or damage have been minimized, the customer assumes all such risks, and there is no product liability for Wavelength. Examples of devices considered to be life support devices are neonatal oxygen analyzers, nerve stimulators (for any use), auto transfusion devices, blood pumps, defibrillators, arrhythmia detectors and alarms, pacemakers, hemodialysis systems, peritoneal dialysis systems, ventilators of all types, and infusion pumps as well as other devices designated as "critical" by the FDA. The above are representative examples only and are not intended to be conclusive or exclusive of any other life support device.

REVISION HISTORY

REVISION	DATE	NOTES
REV. B	1-Oct-08	Initial release
REV. C	28-Apr-09	Added PTC-CH Temperature Controller holes
REV. D	5-Oct-09	Updated to reflect RoHS status
REV. E	4-Jun-10	Updated diagrams and thermal paste image
REV. F	17-Jun-11	Added thermal resistance specification

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