

# Diode Schematic

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The EYP-DFB-0852-00150-1500-TOC03-0005 laser diode[1], shown in Fig. 1, is going to be soldered to the D2-007 Current and Temperature Control Breakout Board[2], shown in Fig. 2.

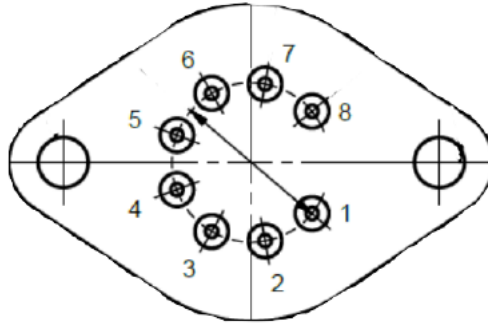


Figure 1: Schematic of the laser diode from data sheet[1].

Number	What Pin It Is
1	Thermoelectric Cooler (+)
2	Thermistor
3	Thermistor
4	Laser Diode Cathode
5	Laser Diode Anode
6	Monitor Diode Anode
7	Photo Diode Cathode
8	Thermoelectric Cooler (-)

Table 1: What each pin is on the diode in Fig. 1.

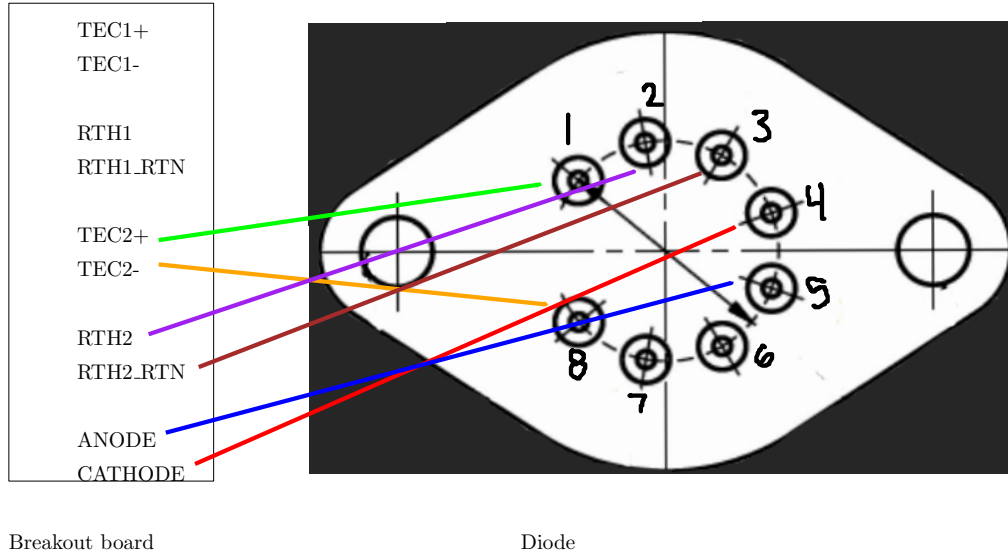


Figure 2: Schematic drawing of where each pin will be solder to on the breakout board.

TEC2+ and TEC2- were chosen as TEC1+ and TEC1- are set at factory settings and should not need any adjustment[3]. Whereas TEC2+ and TEC2- can be used to adjust the thermoelectric cooler (-) and (+) to where we want it to be. RTH2 and RTH2.RTN were chosen instead of RTH1 and RTH1.RTN to be safe in case 1 would not allow us to adjust as we need like TEC1+ and TEC1-, as there was nothing specific about it in the laser controller manual nor the breakout board website. As well, there was no indication that there was any difference in pins 2 and 3 (the thermistors) so it was arbitrarily chosen for pin 2 to go to RTH2 and pin 3 to go to RTH2.RTN. Summarized,

Breakout Board Pin	Diode Pin Number	Line Colour
TEC2+	1	Green
TEC2-	8	Orange
RTH2	2	Purple
RTH2.RTN	3	Brown
ANODE	5	Blue
CATHODE	4	Red

Table 2: Summary of Fig. 2.

## References

- [1] TOPTICA eagleyard, "DATA SHEET EYP-DFB-0852-00150-1500-TOC03-0005 Revision 1.07". [https://www.toptica-eagleyard.com/fileadmin/downloads/data\\_sheets/EYP-DFB-0852-00150-1500-TOC03-0005.pdf](https://www.toptica-eagleyard.com/fileadmin/downloads/data_sheets/EYP-DFB-0852-00150-1500-TOC03-0005.pdf)
- [2] Vescent Photonics, "D2-007 Current and Temperature Control Breakout Board". <https://vescent.com/ca/d2-007-current-and-temperature-control-breakout-board.html>
- [3] Vescent Photonics, "Product Manual, Laser Controller, Model No. D2-105 / D2-105-500". Temperature Control; T2 Set (Trimpot). February 26, 2021. [https://www.vescent.com/manuals/doku.php?id=d2:laser\\_controllertemperature\\_control](https://www.vescent.com/manuals/doku.php?id=d2:laser_controllertemperature_control)