**UNIBODY LITTROW DIODE LASER**

**(Long Cavity)**

**Part List**

Tobias Brown-Heft, Eryn Cook, Paul Martin

09/13/2011

Summary of parts:

|  |  |  |  |
| --- | --- | --- | --- |
| **Part Name** | **Material** | **Starting Dimensions** | **Quantity Per Laser** |
| Baseplate | 6061-T6 Aluminum | 4.5” x 11.75” x 1” | 1 |
| Bottom Cover | 6061-T6 Aluminum | 4.48" x 10" x 0.75" | 1 |
| Cavity | 6061-T6 Aluminum | 4.5” x 10” x 1” | 1 |
| Top Cover | 6061-T6 Aluminum | 4.48" x 10" x 0.75" | 1 |
| Diode Collimation Tube Mount | 6061-T6 Aluminum | 1.40” x 0.78” x 1.08” | 1 |
| Optical Isolator Mount (Large Version) | 6061-T6 Aluminum | 1.75” x 2.05” x 1.60” | 1 |
| Optical Isolator Mount (Small Version) | 6061-T6 Aluminum | 1.75” x 2.05” x 0.375” | 1 |
| Diode Protection Circuit | PC Board | 1” x 1” | 1 |
| Brewster Window | Microscope Slide | 0.7” x 0.7” | 1 |

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**Additional Components**

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Summary of parts:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description** | **Company** | **Part Number** | **Quantity per Laser** | **Unit Cost $** |
| 15 Pin D-sub Connector (male) | Amphenol | DSub-15 | 1 | 3.04 |
| 23AWG Heavy-build Polyimide Wire | MWS Wire Industries | 23HML | ~15 ft | 0.0516/ft |
| Collimation Tube | Thorlabs | LT230P-B | 1 | 111.00 |
| Thermistor | EPCOS | B57861S0503F040 | 1 | 2.14 |
| Temperature Sensor | Analog Devices Inc. | AD590 | 1 | 7.98 |
| Piezomechanical Actuator | Noliac | SCMAP02 | 1 | 227.15 |
| Sapphire Window | Swiss Jewel | W7.87 | 2 | 5.20 |
| Thermoelectric Cooler | Laird | 56460-501 | 3 | 16.73 |
| Laser Diode | Sacher | G2 Series | 1 | 1600.00 |
| Holographic Diffraction Grating | Newport | 6x12x3.2mm | 1 | 16.73 |
| Anamorphic Prisms | Thorlabs | PS871-B | 2 | 143.20 |
| Viton O-Ring (Dampening) | McMaster-Carr | AS568A-004 | 1 | 4.22 |
| Viton O-Ring (Vacuum) | McMaster-Carr | AS568A-167 | 2 | 4.92 |
| PM fiber coupler for (λ) with angle FC receptacle, f=7.5mm aspheric lens, and laser head adapter #15 | Oz Optics | HPUC-23A-(λ)-P-7.5AS-15 | 1 | 230.95 |
| ¼” Aluminum Seal-Off Valve | DLH Industries | V1021-1 | 1 | 11.30 |
| ¼” Valve Operator, 25mm ISO Flange | DLH Industries | V1025-3-25 | N/A | 188.00 |
| Optical Isolator (‘Aspirin’ Version) | Thorlabs | IO-D Series | 1 | 465.00 |
| Optical Isolator (Large Version) | Thorlabs | IO-3D Series | 1 | 1575.00 |
| 3-Pin Connector for Diode Laser | Thorlabs | S8060 | 1 | 6.00 |