



**NEW SOURCE TECHNOLOGY<sup>LLC</sup>**  
*Where performance equals value*

**Contact us:**

**Tel. (925) 462 6888 Fax. (925) 462 8388**

**Email: [sales@newsourcetechnology.com](mailto:sales@newsourcetechnology.com)**

1249 Quarry Lane, Suite 100, Pleasanton, CA 94566

**[www.newsourcetechnology.com](http://www.newsourcetechnology.com)**

**Diode Laser Worksheet**

**CW SYSTEMS (Essentially DC Operation)**

Maximum Output Current Required: \_\_\_\_\_ A Maximum Voltage Compliance: \_\_\_\_\_ V

Maximum Power to Diode Laser: \_\_\_\_\_ Watts

Rise/Fall Time Requirements: \_\_\_\_\_ mSec (.5mSec max for CW drivers)

Maximum Modulation Frequency: \_\_\_\_\_ Hz (500Hz max for CW drivers)

Current Regulation/Stability Required: \_\_\_\_\_ % (0.5% max)

**QCW SYSTEMS (Pulsed Operation)**

Maximum Pulsed Output Current: \_\_\_\_\_ A

Minimum Number of Bars in Series: \_\_\_\_\_ Maximum Number of Bars in Series: \_\_\_\_\_

Minimum Voltage Compliance: \_\_\_\_\_ V Maximum Voltage Compliance: \_\_\_\_\_

Minimum Rise/Fall Time: \_\_\_\_\_ uSec (25uSec max) Maximum Pulse Width: \_\_\_\_\_ uSec

Duty Cycle: \_\_\_\_\_

Maximum Average Power Required: \_\_\_\_\_ Watts

**TE COOLER REQUIREMENTS**

TE Power: \_\_\_\_\_ Te Voltage: \_\_\_\_\_

**INPUT POWER**

Input AC Voltage Range: \_\_\_\_\_ VAC to \_\_\_\_\_ VAC

Power Factor Required? \_\_\_\_\_ Yes \_\_\_\_\_ No

Universal Input Required? \_\_\_\_\_ Yes \_\_\_\_\_ No

**AGENCY APPROVAL REQUIREMENTS**

None \_\_\_\_\_ UL \_\_\_\_\_ TUV \_\_\_\_\_ CSA \_\_\_\_\_ CE \_\_\_\_\_ OTHER \_\_\_\_\_

**PACKAGE OPTIONS**

Space Available (Dimensions): \_\_\_\_\_ mm x \_\_\_\_\_ mm x \_\_\_\_\_ mm (or) \_\_\_\_\_" x \_\_\_\_\_" x \_\_\_\_\_"

**ENVIRONMENTAL**

Ambient Temp Range \_\_\_\_\_ Deg C min \_\_\_\_\_ Deg C max

**OTHER OUTPUTS REQUIRED:**

Aux Output 1: \_\_\_\_\_ V @ \_\_\_\_\_ A Aux Output 2: \_\_\_\_\_ V @ \_\_\_\_\_ A Aux Output 3: \_\_\_\_\_ V @ \_\_\_\_\_ A

## **Comments On Diode Laser Driver Requirements::**

### **CW SYSTEMS (Essentially DC Operation)**

**Maximum Output Current Required** – Customers typically use between 30A and 80A

**Maximum Voltage Compliance** – The required voltage is typically 2V/diode and customers run any number of diodes in series, depending on their application. But if customers have long lead wires between diodes and the power supply, there will be some voltage dropped on the wires, so the customer has to tell us how much voltage they need. The power supply will deliver the programmed current in any voltage up to the maximum voltage compliance of the unit.

**Maximum Power to Diode Laser** – This is basically the maximum current \* maximum voltage

**Rise/Fall Time Requirements** – some customers use our LDD models, which are intended for CW operation, for slow pulsing, up to 500hz. The unit has a maximum rise time of .5mSec.

**Maximum Modulation Frequency** - 500Hz max for CW drivers

**Current Regulation/Stability Required:** The best we can do is 0.5%, so for a 60A driver, our regulation/accuracy would be 300mA

### **QCW SYSTEMS ( High Current Pulsed Operation)**

**Maximum Pulsed Output Current** Customers typically pulse between 50A and 200A

**Bars in series:** We need to know this in case a customer has an application and intends to drive different load. If the customer has a fixed number of bars, then we need to know that also.

**Minimum Voltage Compliance** We need to know what the customer thinks their voltage compliance will be.

**Rise Time** – The best our systems can do is 25uSec. Some customers need rise/fall times in the nanosecond range. We can't help them.

**Maximum Pulse Width:** This is an important spec we need to know

**Duty Cycle:** How often will the maximum pulse width be repeated.

**Maximum Average Power Required:** The customer should know this

### **TE COOLER REQUIREMENTS**

Sometimes, customers control the temperature of their diode lasers with thermoelectric coolers. We can supply the power and control to do this.

The rest of the info is pretty straight-forward.