



ANALOG MODULES, INC.

HIGH POWER PULSED LASER DIODE DRIVER

- OUTPUT UP TO 200A, 24V PULSED
- $\leq 25\mu\text{s}$ RISETIME
- 50 TO 400 μs PULSES, 20W MAX.
- +6 TO +8VDC INPUT POWER
- $\geq 70\%$ EFFICIENCY
- COMPACT < 4.3" X 2.7" X 1.5"



DESCRIPTION:

The Model **772A** is a highly efficient, low voltage DC input power converter/laser diode driver designed to supply pulsed high current for laser diode-stack loads. Pulsed output current is from 100A to 200A with $\leq 25\mu\text{s}$ risetime into diode-stacks of 17V to 24V at an average power to the load of 20W. The driver weighs 10.5 oz. in a compact package. The Model 772A also provides a trigger signal for AMI's Pockels Cell Drivers. The unit does not require a heatsink and offers open circuit, short circuit, and thermal overload protection. Please contact AMI to discuss your OEM requirements. Other input voltage and output current/voltage ranges available.

SPECIFICATIONS:

Input

Voltage +6 to +8 VDC via two #4-40 standoffs
+12 to +16VDC optional input available

Output

Voltage 17 to 24 V diode stack
Current 200 A pulsed, maximum, 100 A minimum
Polarity Floating output; neither anode nor cathode can be grounded

Off-State Current $\leq 1\text{mA}$
Risetime $\leq 25\mu\text{s}$
Avg. Power (load) 20W
Pulsewidth 50 – 400 μs

Regulation

Load $\approx 5\text{ A}$ (17 to 24V) (typical)
Line $\leq 2\text{ A}$ (6-8 VDC in)
Efficiency 75% typical
Ripple Current $\pm 7\text{ A}$ at 200 A

Cooling:

Natural convection (no heatsink required)

Protection

Thermal shutdown
Open circuit
Short circuit

Connections

Driver I/O: 10 pin Hirose Conn. DF13-10P-1.25DS
Mate DF13-10S-1.25C

QSW Driver I/O: 4 pin Hirose Conn. DF13-4P-1.25DS
Mate DF13-4S-1.25C
(Mating cables supplied with 18" flying leads)

External Controls

Enable High input starts drive current to laser
Current Control Analog voltage input proportional to output current
Thermistor Thermistor input (Thermistor in battery pack. If battery overheats PS shuts down.)
PS Fault High when overtemp shutdown has occurred
PS Ready High when laser anode voltage has charged and driver is ready for laser firing
Inh PS High signal inhibits power supply and driver functions
Batt Low High when battery drops to $\sim 6\text{VDC}$
Q-switch Trig Input for Q-switch

Size & Weight

4.3" x 2.7" x 1.5"; 10.5 oz

Temperature

-30°C to +50°C operating
-45°C to +60°C storage

Specifications subject to change without notice.

U.S. Patent No. 7,348,948



APPLICATIONS:

Pulsed High Current Laser Diode Current Source

"In the event this commodity will be transferred to a "foreign person" as defined in 22 CFR 120.16, either outside or within the United States, a validated US State Department license is required."

