ANALOG MODULES, INC.

MODEL 774A
PULSED HIGH CURRENT LASER DIODE DRIVER

HIGH POWER PULSED LASER DIODE DRIVER

- OUTPUT UP TO 200A, 40V PULSED
- ≤ 45µS RISETIME
- 50 TO 400µS PULSES, 27W MAX.
- UP TO 1.33J PER PULSE
- ≥ 70% EFFICIENCY
- COMPACT 4.6" X 2.75" X 1.4"

DESCRIPTION:

The Model 774A 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 200A with ≤ 45µs risetime into diode stacks of 24V to 40V at an average power to the load of 27W at 20Hz. The driver weighs 7.0 oz. in a compact package. 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: +19.6 to +32VDC

Output
- Voltage: 24 to 40V diode stack
- Current: 200A pulsed
- Polarity: Floating output; neither anode nor cathode can be grounded
- Off-State Current: ≤ 100mA
- Risetime: ≤ 45µs
- Avg. Power (load): 27W (at 20Hz)
- Pulselength: 50 to 400µs

Regulation
- Load: ≈ 5A (24 to 40V) (typical)
- Line: ≤ 2A (19.6 to 32 in)
- Efficiency: 75% typical
- Ripple Current: ± 7A at 200A

Cooling: Natural convection (no heatsink required)

Protection
- Thermal shutdown
- Open circuit
- Short circuit

Connections
- Driver I/O: 14 pin Molex Conn. 53048-1410
- Mate – Molex 51021 series
- Diode Load: PCB pads, 0.25" x 0.20"

External Controls
- Enable: High (3.3V) input charges storage capacitor
- HV Ready: Open Drain, Active High output (w/pull-up, 15V max.) when within 4% of full charge.
- Trigger: High (3.3V) input causes current pulse to be delivered to the diode load.
- Current Monitor: Output, 17mA/kg scaled representation of output current pulse

Size & Weight
- 4.6" x 2.75" x 1.4"; 7.0 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."
<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>OUTPUT CURRENT</th>
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<tbody>
<tr>
<td></td>
<td>200 Amps peak pulsed</td>
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<tr>
<td>INPUT VOLTAGE</td>
<td>+19.6 to +32VDC</td>
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**774A Outline Drawing**

- 1.42 MAX ENVELOPE
- 1.13
- 2.75
- 2.500
- 4.60
- 4.350

- E2 CATHODE (NEAR SIDE)
- E1 ANODE (FAR SIDE)
- SURFACE MNT PADS

- Ø.109 THRU 6-PLACES
- J3 (FAR SIDE)

- .40 MAX COMP HEIGHT
- .95 MAX COMP HEIGHT

- J3 (MOLEX 53048-1410)