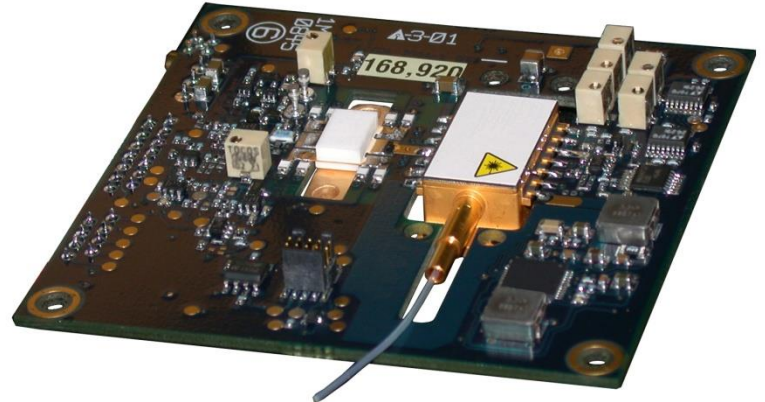




## OEM Seed Laser Diode Driver Assembly

- OUTPUT CURRENT UP TO 2.5 AMPS
- OUTPUT PULSEWIDTH 20 ns TO CW
- COMPLIANCE VOLTAGE TO 10.0 V
- ON-BOARD PULSE GENERATOR
- DIGITAL OR ANALOG CONTROL
- +5 VDC INPUT POWER
- RoHS COMPLIANT



### DESCRIPTION:

AMI's Model 762 OEM programmable seed laser diode drivers are ideal for driving 14-pin butterfly packaged laser diode modules for use in CW or pulsed fiber MOPA systems. Applications include materials processing, LIDAR systems for remote sensing, laser communication and rangefinding.

### SPECIFICATION:

PARAMETER	762			762-EXT			Units
	Min.	Typical	Max.	Min.	Typical	Max.	
<b>INPUT</b>							
Power (Driver and TEC)	4.75	5.0	5.25	4.75	5.0	5.25	VDC
Current (Driver and TEC)	-	0.330	3.5	-	0.330	3.5	A
Power (Laser)	3.0	5.0	12	3.0	5.0	12	VDC
Current (Laser) (Laser dependent)	-	-	2.5	-	-	2.5	A
Control Voltage (50 Ω Impedance)	-	N/A	-	0	-	2.5	V
<b>OUTPUT</b>							
Current	0.1	-	2.5	0.1	-	2.5	A
Compliance Voltage	-	2.0	10.0	-	2.0	10.0	V
Pulsewidth	20	-	CW	20	-	CW	ns
Repetition Rate	Single Shot	-	10	Single Shot	-	10	MHz
Duty Cycle	0	-	100	0	-	100	%
Risetime (Optical) @ 2 A	-	10	15	-	10	15	ns
Falltime (Optical) @ 2 A	-	10	-	-	10	-	ns
Analog Back Facet Monitor	0	-	3.7	0	-	3.7	V
TEC Voltage	0	-	4.2	0	-	4.2	V
TEC Current	0	-	3.0	0	-	3.0	A

\*Faster risetimes, shorter pulse widths, higher voltage, and CW operation possible under certain operating conditions (consult factory).

Specifications are subject to change without notice.



### APPLICATIONS:

Seeding Fiber Lasers, Remote Fiber Optic Sensing, Laser Communication





<b>PROTECTION:</b>	Adjustable current limit
	Driver disabled when laser temperature exceeds temp window
<b>CONNECTIONS:</b>	
Back Facet Monitor:	Micro Coax Connector ( <i>Amphenol 908-24100</i> )
Power:	3 pin Terminal Block ( <i>Molex 0393570003</i> )
Interface:	8 & 14 Pin AMP MicroMatch Connectors ( <i>7-215460-8 &amp; 8-215460-4</i> )
<b>TEMPERATURE:</b>	
Operating:	0°C to +50°C
Storage:	-20°C to +70°C
<b>SIZE:</b>	2.9" x 3.00" x 0.5"
<b>DIGITAL CONTROL:</b>	Asynchronous (9600bps, 8nl serial) protocol or I <sup>2</sup> C slave protocol (100 or 400 kHz). All logic inputs are TTL, 5 V CMOS compatible. Digital outputs are pulled up to +5 V internally with 4.75 kΩ except AMP SYNC1/AMP SYNC 2 pulled up to +5 V with 300 Ω.
<b>THERMAL:</b>	On-board TEC Controller will provide heating and cooling as necessary to maintain desired operating point. Thermistor and the TE cooler are in the laser diode package (not included). Customer may need to provide thermal mass for heatsinking under high dissipation conditions.

## OPERATING NOTES:

The driver circuitry operates from a single +5 V power source. Additional voltages are generated on the board by high efficiency switching power supplies. The laser power input may be operated down to +3 V to conserve power at the expense of switching speed. Input laser power may also be increased up to +12 V to enhance switching speed for high inductance lasers. For most applications laser power may be tied to the driver +5 V supply, or through an external switch as an additional safety interlock.

An on-board field programmable gate array (FPGA) is programmed to handle communications, to modify adjustable features, and to provide external flags and signals to a host system. The FPGA also contains a comprehensive pulse generation system with many programmable features. Adjustments can also be made through analog operation by the use of multi-turn potentiometers and providing an external TTL trigger pulse so a serial interface is not required. A graphical user interface (GUI) program is included for easy control and programming from a PC. The driver supplies a bidirectional proportional-integral-derivative (PID) thermoelectric cooler (TEC) controller with current capability of 3 A and voltage capability of 4.2 V.

The 762-EXT is offered for those who require agile control of the laser current, want to modulate the current or drive the laser with arbitrary waveforms, pulses with variable rise/fall times or modified pulse flatness. An external control voltage with a calibration of 1 A/V is required for this mode of operation and the potentiometer and digital control of the laser current are disabled.

The board is manufactured as a RoHS compliant assembly built to the Directive 2002/95/EC requirements. A heatsink adapter plate to mount to an external heatsink and all required mating cables are supplied with each unit. Contact AML today to discuss your custom requirements.



**14-pin Connector (J7)**

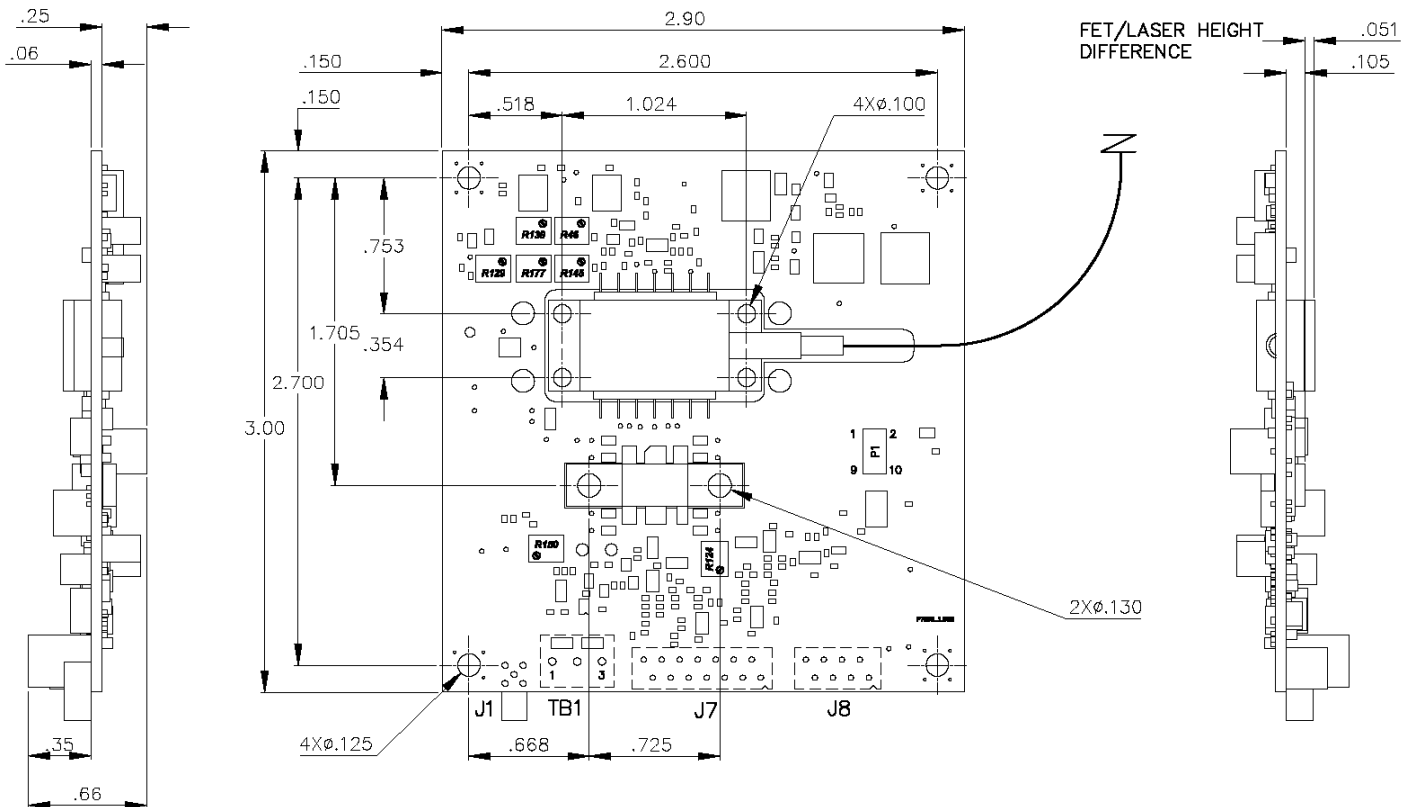
Pin	Signal
1	ENABLE
2	GND
3	CONTROL VOLTAGE
4	MONITOR GAIN MSB
5	MONITOR GAIN LSB
6	GND
7	TRIG/PW
8	GND
9	TRIG/PW
10	GND
11	I <sup>2</sup> C CLK/ASSYNC TX
12	I <sup>2</sup> C DATA/ASSYNC RX
13	GND
14	SERIAL SEL.

**8-pin Connector (J8)**

Pin	Signal
1	CURRENT FAULT
2	TEMP. FAULT
3	GND
4	LASER FIRE OUT
5	GND
6	AMP SYNC1
7	GND
8	AMP SYNC2

**14-Pin Butterfly Package Interface (Customer-supplied)**

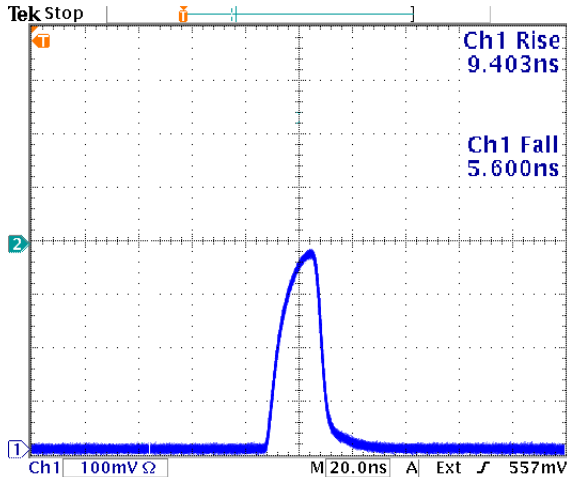
Pin	Connection
1	TEC Cooler (+)
2	Thermistor
3	Back facet monitor anode (+)
4	Back facet monitor cathode (-)
5	Thermistor
6	N/C
7	N/C
8	N/C
9	N/C
10	Laser diode anode (+)
11	Laser diode cathode (-)
12	N/C
13	Case ground
14	TEC cooler (-)



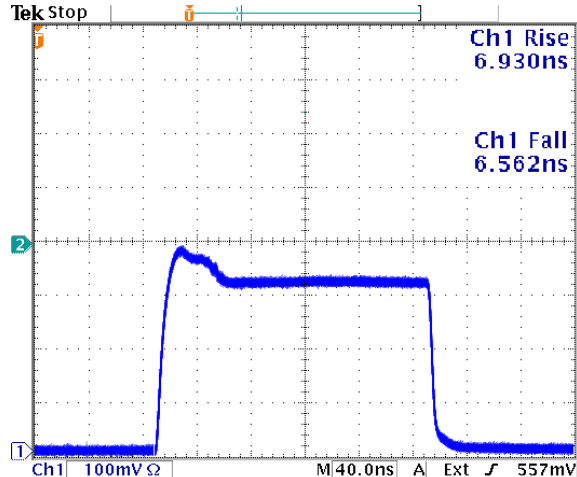


### Sample Optical Output Waveforms

#### Data taken with 3S Photonics Model 1064CHP

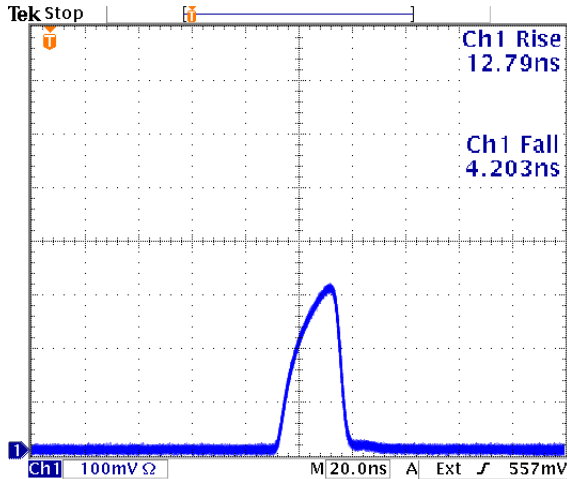


20 ns Pulse Width, 2 A Drive Current, 1 kHz Frequency

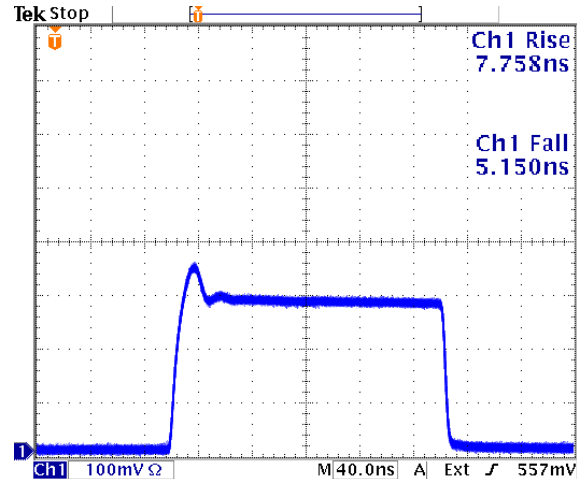


200 ns Pulse width, 2 A Drive Current, 1 kHz Frequency

#### Data taken with Oclaro Model LC96A1060-20R

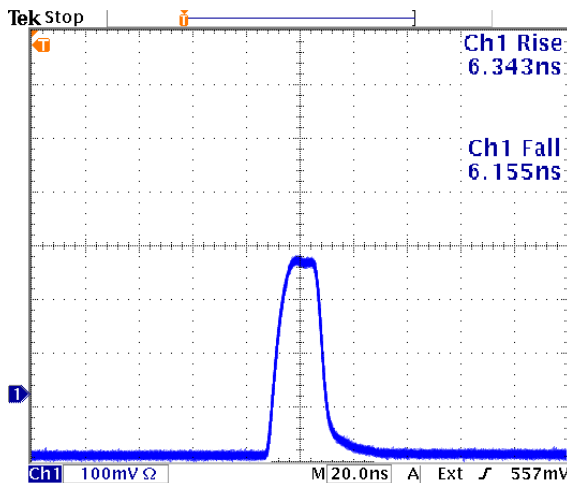


20 ns Pulsewidth, 2 A Drive Current, 1 kHz Frequency

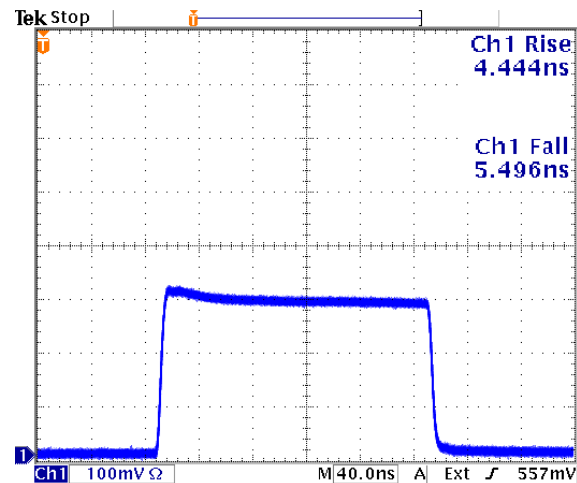


200 ns Pulsewidth, 2 A Drive Current, 1 kHz Frequency

#### Effects of increased laser voltage on output



3S Photonics, 20 ns Pulsewidth, 2 A Drive Current, 1 kHz Frequency, 6 V Laser Voltage



Oclaro, 200 ns Pulsewidth, 2 A Drive Current, 1 kHz Frequency, 12 V Laser Voltage



### Included Graphical User Interface Program

**762 / 762-EXT - Seed Laser Diode Driver - 7707 - Revision B**

**Communication Options**

9600-8-N-1

I2C Address:

**762 Device Information**

Connected: No  
 Serial Num: Not Connected  
 FW Build: Not Connected  
 Signature: Not Connected

I2C Address:

**Memory Control**

**Enable**

Ext. HW Control  Int. Mem. Control

Enable  Disable

**Serial Select**

Ext. HW Control  Int. Mem. Control

I2C  Asynchronous

**Monitor Gain**

Ext. HW Control  Int. Mem. Control

11  10  01  00

**Manual Command**

1 2 3

1: Command (W, R, L, S, T, B)  
 2: Command Dependent  
 3: Command Dependent

**Pulse Enable**

Trigger / PW   
 Amp. Sync 1  
 Amp. Sync 2

**Adjustable Parameters - Digital to Analog Converter Values**

EN	Min	Value	Max	Description
1	<input type="text"/>	<input type="text"/>	<input type="text"/>	Set Laser Fire Threshold (mA)
2	<input type="text"/>	<input type="text"/>	<input type="text"/>	Set TEC Maximum Current (A)
3	<input type="text"/>	<input type="text"/>	<input type="text"/>	Set TEC Maximum Voltage (V)
4	<input type="text"/>	<input type="text"/>	<input type="text"/>	Set TEC Set Point Temp. (C)
5	<input type="text"/>	<input type="text"/>	<input type="text"/>	Set Laser Diode Current (A)
6	<input type="text"/>	<input type="text"/>	<input type="text"/>	Set Current Limit (A)
7	<input type="text"/>	<input type="text"/>	<input type="text"/>	Set Laser Diode Bias Curr. (mA)
8	<input type="text"/>	<input type="text"/>	<input type="text"/>	Set Test Point E7 - NC (V)

Enable All DACs  All DACs (Simultaneously)  
 Show Raw Values

**Trigger Configuration and Options**

Follow External Trigger PW:   x10ns.

Use External Trigger Trigger Delay:  x10ns.

Use Ext. Trigger as Gate Trigger Period:  x10ns.

Use Ext. Trigger as Sync

Int. Pulse Generator

**Amp. Sync 1 Options**

Pulsewidth:   x10ns.  Delay:  x10ns.

**Amp. Sync 2 Options**

Pulsewidth:   x10ns.  Delay:  x10ns.

**TEC Shutdown**

Always Operating  Int. Mem. Control

Operating  Shutdown

**Status**

762 Enable (Low)  
 762 Ready  
 DAC Ready  
 EEPROM Ready  
 Temp Fault (Low)  
 Current Fault (Low)  
 TEC Shutdown  
 762 Error  
 Int. Memory Error  
 DAC Error  
 EEPROM Error

**Base**

Hexadecimal (F5)  
 Decimal (F6)

Build 1.2.2.36





# ANALOG MODULES, INC.

## OEM Seed Laser Diode Driver Assembly

- OUTPUT CURRENT UP TO 1.2 AMPS
- OUTPUT PULSEWIDTH 10ns TO CW
- FAST RISETIME OF 6ns
- COMPLIANCE VOLTAGE TO 3.0V
- +5VDC INPUT POWER
- RoHS COMPLIANT



### DESCRIPTION:

AMI's Model 763 OEM seed laser diode driver is ideal for driving 14-pin butterfly packaged laser diode modules for use in CW or pulsed fiber MOPA systems. Applications include materials processing, LIDAR systems for remote sensing, fiber optic temperature sensing, laser communication and ranging. The driver is implemented as a transconductance amplifier (analog voltage in, scaled current out). The driver circuitry operates from a single 5V power source. All other needed voltages are generated on the board by high efficiency switching power supplies. The 763 is manufactured to the RoHS Directive 2002/95/EC requirements. All required mating cables are included.



### SPECIFICATION:

PARAMETER	Min.	Typical	Max.	Units
<b>INPUT</b>				
Power	4.75	5.0	5.25	VDC
Current	-	0.330	3.5	A
Current Control (50 Ω Impedance, 0.333A/V Scaling)	0	-	4.5	V
<b>OUTPUT</b>				
Current	0.1	-	1.2	A
Bias Current (Trimpot adjustable)	0	-	90	mA
Compliance Voltage	-	2.0	3.0	V
Pulsewidth	10	-	CW*	ns
Repetition Rate	Single Shot	-	50*	MHz
Duty Cycle	0	-	100	%
Risetime (Optical) @ 1A	-	6	10	ns
Falltime (Optical) @ 1A	-	6	-	ns
TEC Current	0	1.80	3.0	A
TEC Voltage	0	3.14	4.2	V

\* Limited by maximum output power.

Specifications are subject to change without notice.

### APPLICATIONS:

Seed Laser Diode Driver/Pump Laser Diode Driver for Pumping Fiber Lasers, LIDAR, Communication

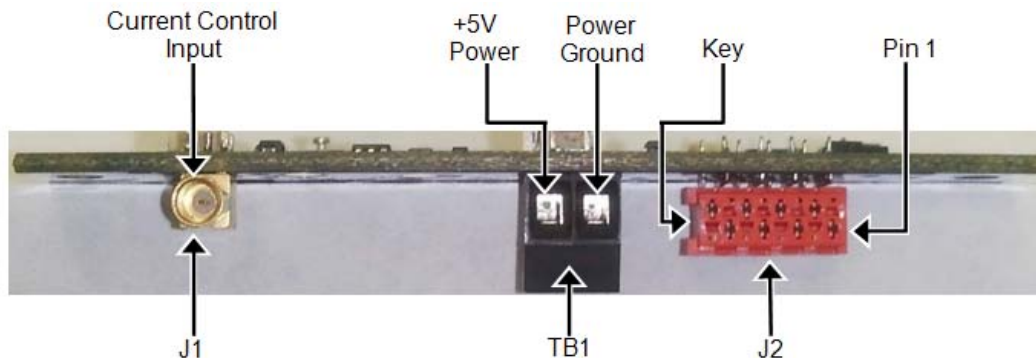




## ABSOLUTE MAXIMUM RATINGS:

PARAMETER	Min.	Max.	Units
<b>INPUT</b>			
Power	-	5.5	VDC
<b>OUTPUT</b>			
Power (25°C, still air)	-	1.0	W
Power (25°C, ≥ 200LFM forced air)	-	1.25	W
<b>TEMPERATURE</b>			
Operating:	0	+50	°C
Storage:	-20	+70	°C
Humidity:		< 95% Non-Condensing	

<b>PROTECTION:</b>	Adjustable current limit
	Driver disabled when laser diode die temperature is outside of TEC set point by $\pm 1^\circ\text{C}$
	Driver disabled when the laser current driving FET's junction temperature exceeds $125^\circ\text{C}$
<b>CONNECTIONS:</b>	
Power:	2 pin Terminal Block ( <i>Molex 39257-002</i> )
Interface:	8 Pin AMP MicroMatch Connectors ( <i>7-215460-8</i> )
Current Control:	MMCX Micro Coax Connector
<b>SIZE:</b>	2.9" x 3.00" x 0.6"
<b>THERMAL:</b>	On-board TEC Controller will provide heating and cooling as necessary to maintain desired operating point. Thermistor and the TE cooler are in the laser diode package (not included). Customer may need to provide thermal mass and/or forced air for heatsinking under high dissipation conditions.



**INPUT/OUTPUT and POWER CONNECTORS**





海纳光学

电话: 0755-84870203

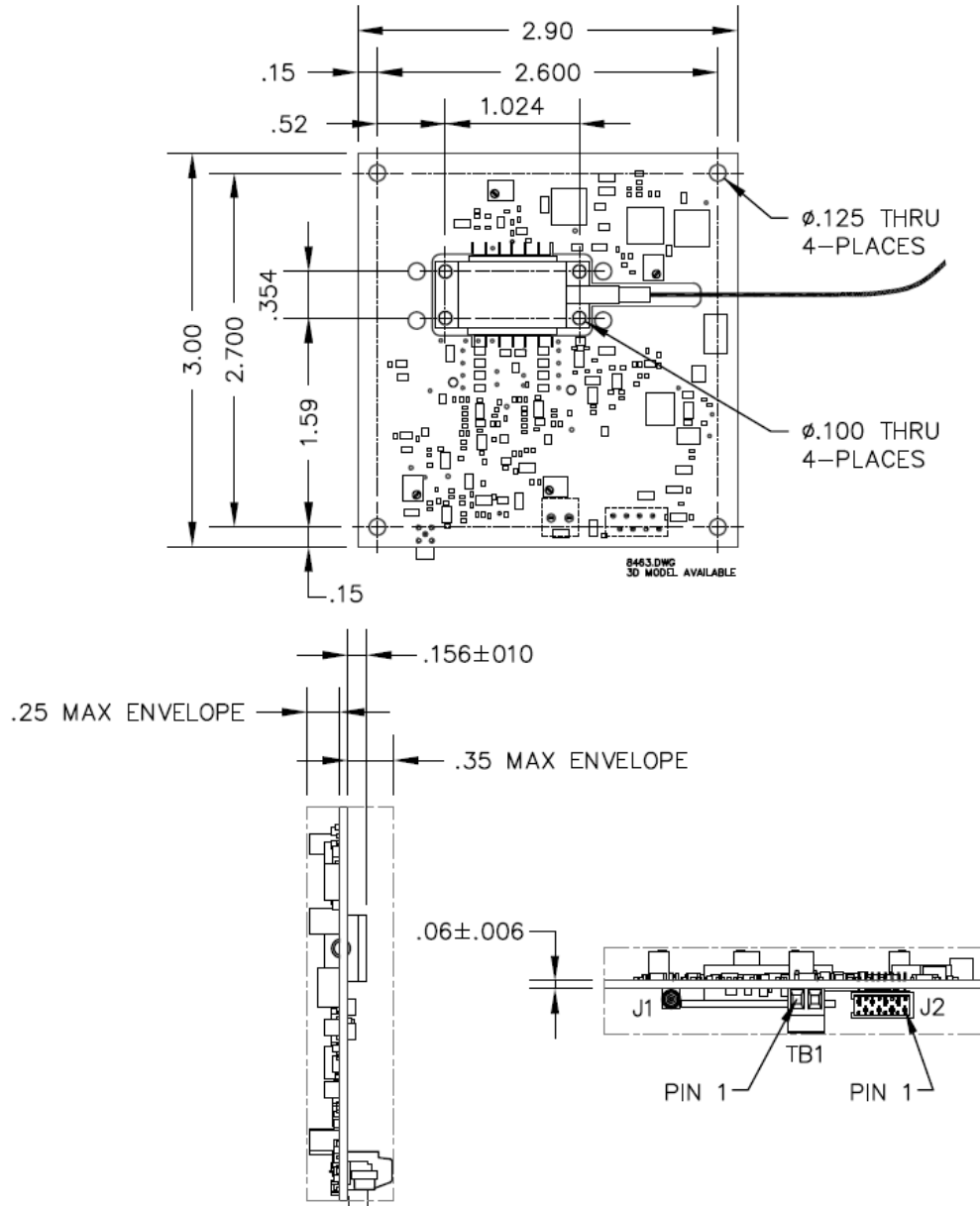
邮箱: sales@highlightoptics.com

I/O CONNECTOR Pinout	
J2	
Pin	Function
1	Enable
2	GND
3	Temp Fault
4	GND
5	Over Current
6	GND
7	Laser Fire
8	GND

J2 PIN DESCRIPTION

Laser Pinout	
Pin	Function
1	TEC +
2	Thermistor
3	BFM Anode
4	BFM Cathode
5	Thermistor
6	N/C
7	N/C
8	N/C
9	N/C
10	LD Anode
11	LD Cathode
12	N/C
13	Case Ground
14	TEC -

LASER DIODE 14-PIN BUTTERFLY PACKAGE PINOUT

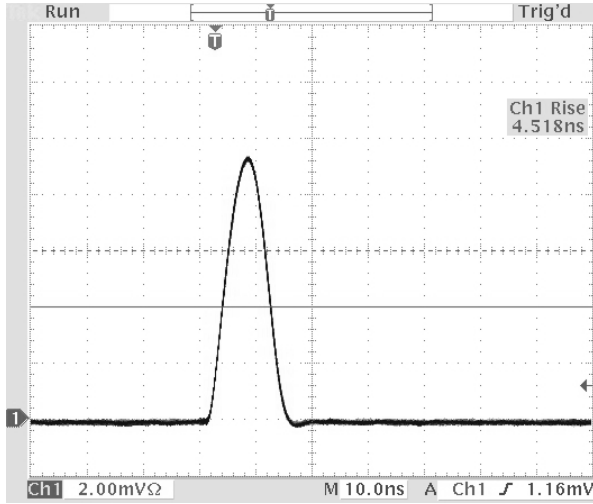




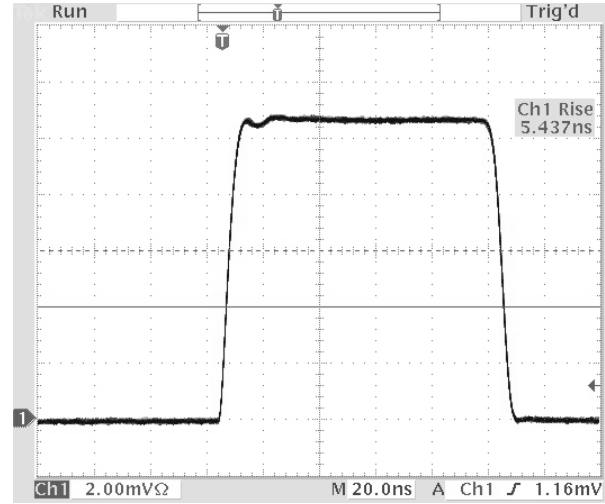


**SAMPLE OPTICAL OUTPUT PULSE WAVEFORMS**

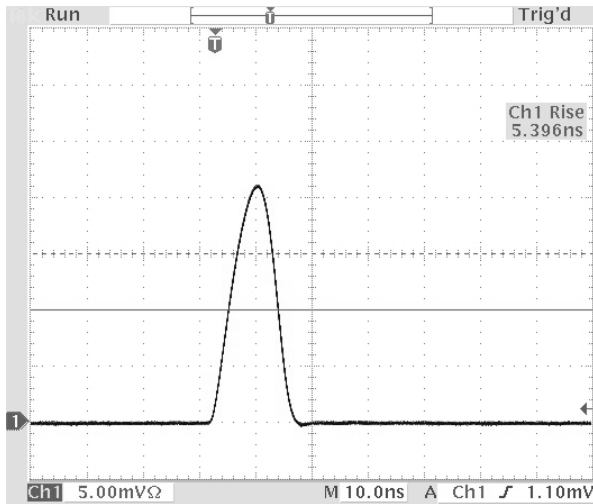
Test Laser: Lumics P/N LU1064M400 400mW, 1064nm



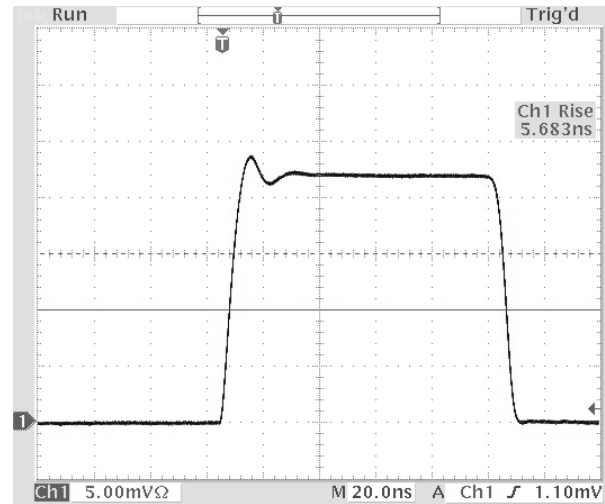
**10ns Pulse Width, 500mA Drive Current**



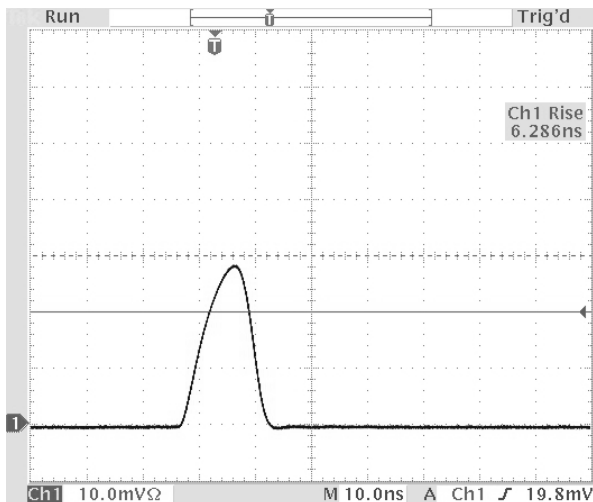
**100ns Pulse Width, 500mA Drive Current**



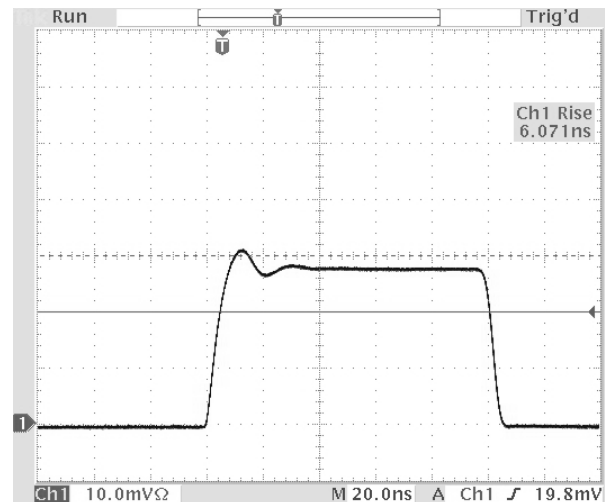
**10ns Pulse Width, 1A Drive Current**



**100ns Pulse Width, 1A Drive Current**



**10ns Pulse Width, 1.2A Drive Current**



**100ns Pulse Width, 1.2A Drive Current**



## PICOSECOND PULSED SEED LASER DIODE DRIVER

- Adjustable Pulse Width <150 ps TO >850 ps
- Output Current up to 2.5 A
- Compliance Voltage up to 10.0 V
- Repetition Rate up to 1 MHz
- On-Board TEC Controller
- 5.0 VDC Input Power
- Compact Size only 2.90" x 3.54" x 0.53"



### DESCRIPTION:

AMI's Model 766A picosecond pulsed seed laser diode driver is ideal for driving 14-pin butterfly packaged laser diode modules for applications which require pulse widths less than 1 ns. Applications include materials processing, time-resolved spectroscopy, LiDAR and others. The driver circuitry operates from a single 5 V power source. All other needed voltages are generated on the board by high efficiency switching power supplies. The pulse width and amplitude can be adjusted by the on-board potentiometers or external voltage signals. The driver includes a low-noise, bidirectional proportional-integral-derivative (PID) thermoelectric cooler controller (TEC) with current capability of 2.2 A and voltage capability of 4.0 V.

### SPECIFICATION:



PARAMETER	Min.	Typical	Max.	Units
<b>INPUT</b>				
Power	4.75	5.0	5.25	VDC
Current	-	0.160	3.2	A
Trigger (50Ω Impedance)	3.68	-	5.0	V
External High Voltage Adjust	0	-	0.7	V
External Pulse Width Adjust	0	-	6.0	V
<b>OUTPUT</b>				
Current*	-	-	2.5	A
Compliance Voltage	1.2	-	10.0	V
Pulse Width**	≤ 150	-	≥ 850	ps
Repetition Rate	Single Shot	-	1.0	MHz
Risetime (Optical) **	-	110	-	ps
TEC Controller Output Current	-	±2.2	-	A
TEC Controller Output Voltage	-	±4.0	-	V
<b>TEMPERATURE</b>				
Operating	0	-	+50	°C
Storage	-20	-	+70	°C
Humidity	< 95% Non-Condensing			

\* Output current dependent upon operating pulse width. See optical output waveforms for example.

\*\* Dependent upon laser diode parasitics

Specifications are subject to change without notice.

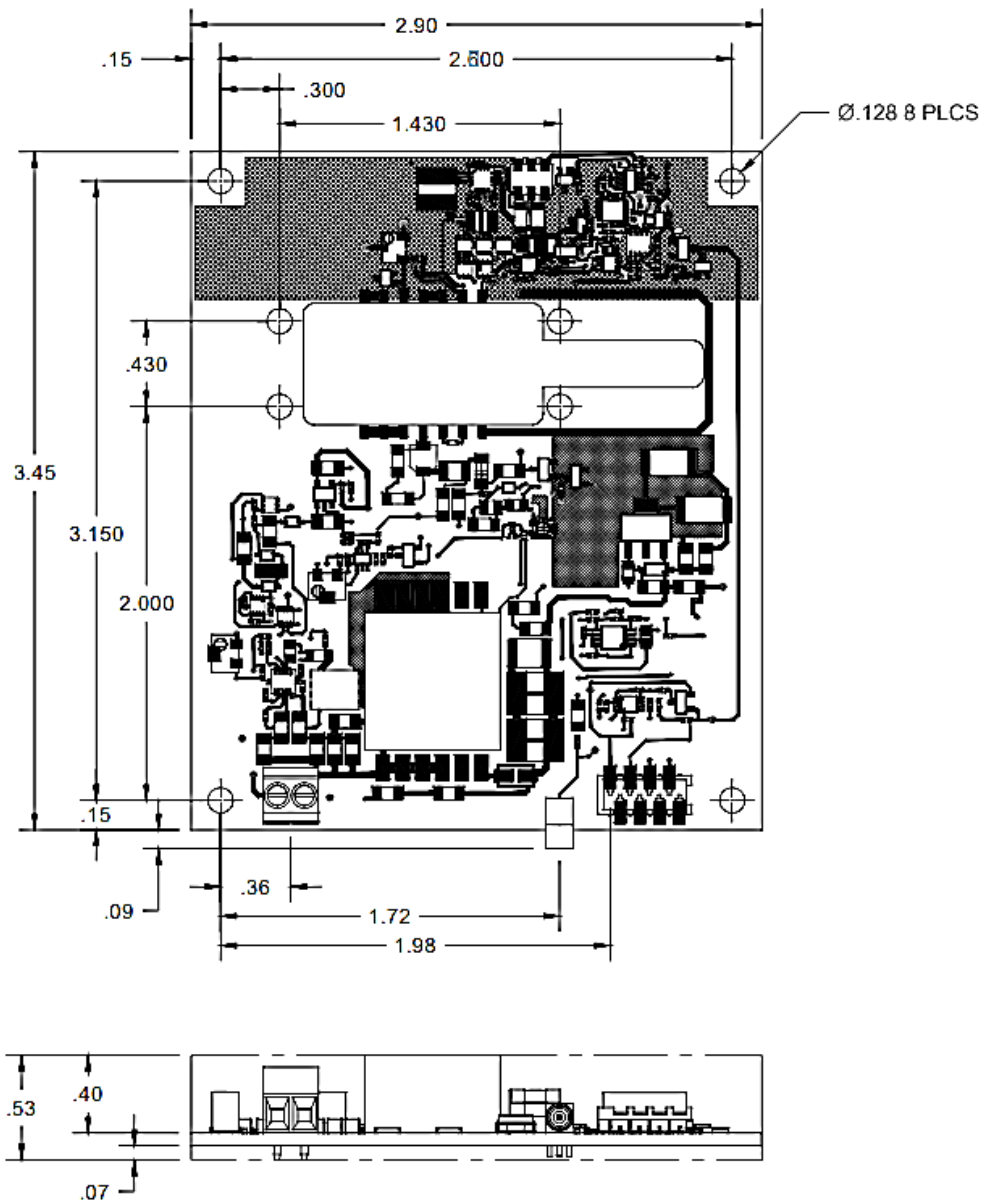
### APPLICATIONS:

Seed Laser Diode Driver for Fiber Lasers, Time-Resolved Spectroscopy, LiDAR



<b>PROTECTION:</b>	Driver disabled when laser diode die temperature is outside of TEC set point by $\pm 0.5^{\circ}\text{C}$ .
	Driver disabled when power exceeds maximum dissipation.
<b>CONNECTIONS:</b>	
Power:	2 pin Terminal Block ( <i>Molex 39257-0002</i> )
Interface:	8 Pin TE Connectivity MicroMatch Connectors ( <i>188275-8</i> )
Trigger Input:	MMCX Micro Coax Connector
<b>SIZE:</b>	2.9" x 3.54" x 0.53"
<b>THERMAL:</b>	On-board TEC Controller will provide heating and cooling as necessary to maintain the thermistor temperature to within $0.0015^{\circ}\text{C}$ from the set temperature. TEC controller is compatible with a 10k Ohm NTC thermistor. The thermistor and the TE-cooler are inside the laser diode package (not included). Customer may need to provide thermal mass and/or forced air for heatsinking under high dissipation conditions.

### MECHANICAL DIMENSIONS:



ALL DIMENSIONS ARE IN INCHES. TOLERANCES: .XX=  $\pm .02$ , .XXX=  $\pm .005$

DWG# 22-007



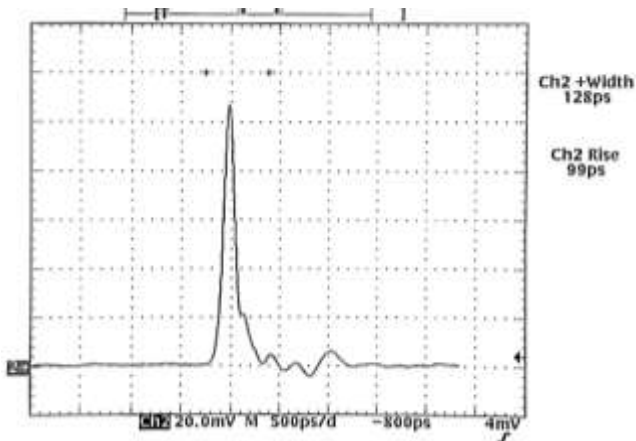
## PIN CONNECTIONS:

I/O CONNECTOR Pinout	
JP1	
Pin	Function
1	Enable
2	GND
3	Temp Fault
4	GND
5	High Voltage Adjust
6	GND
7	Pulse Width Adjust
8	GND

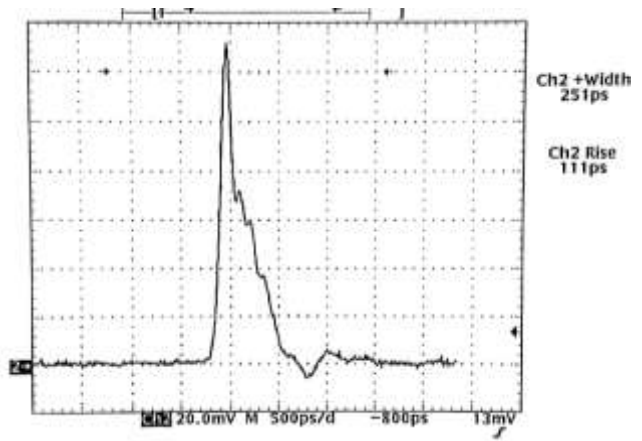
Compatible Laser Pinout	
Pin	Function
1	TEC +
2	Thermistor
3	BFM Anode
4	BFM Cathode
5	Thermistor
6	N/C
7	N/C
8	N/C
9	N/C
10	LD Anode
11	LD Cathode
12	N/C
13	Case Ground
14	TEC -

## OPTICAL OUTPUT WAVEFORMS:

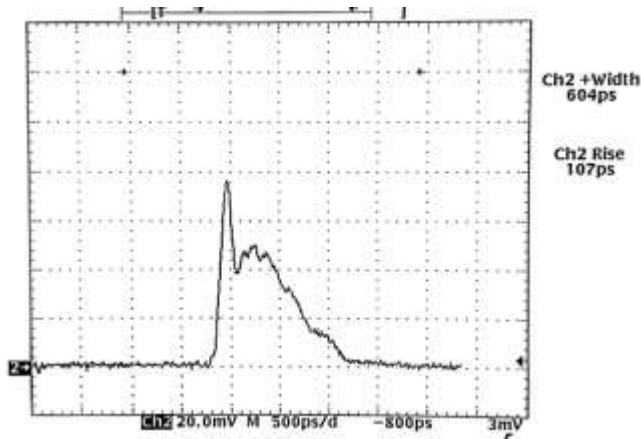
### Test Laser: II-VI CM97A1064 10-pin Butterfly



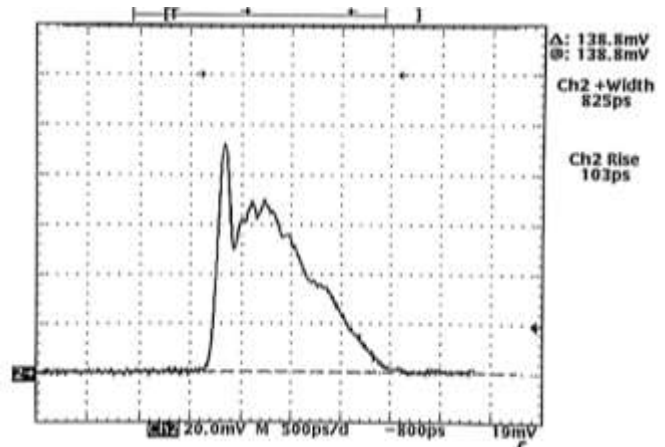
128 ps Pulse Width, 2 A Equivalent Current



251 ps Pulse Width, 2.5 A Equivalent Current



604 ps Pulse Width, 1.5 A Equivalent Current

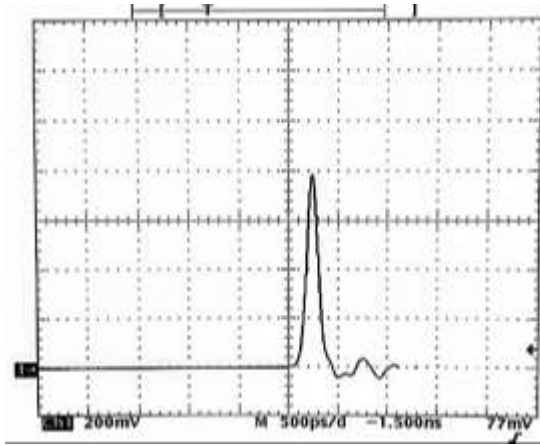


825 ps Pulse Width, 1.8 A Equivalent Current

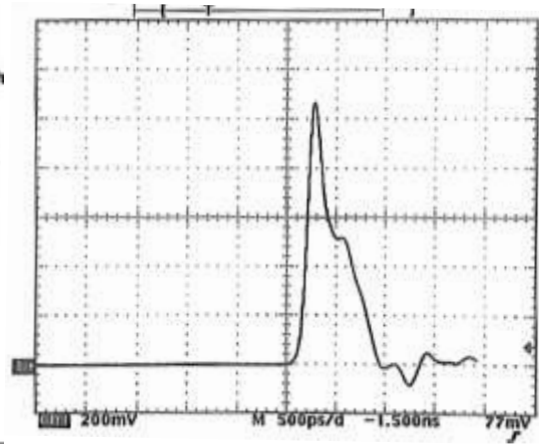


## ADDITIONAL SAMPLE OPTICAL WAVEFORMS:

Test Laser: Lumics LU1064M450 14-pin Butterfly

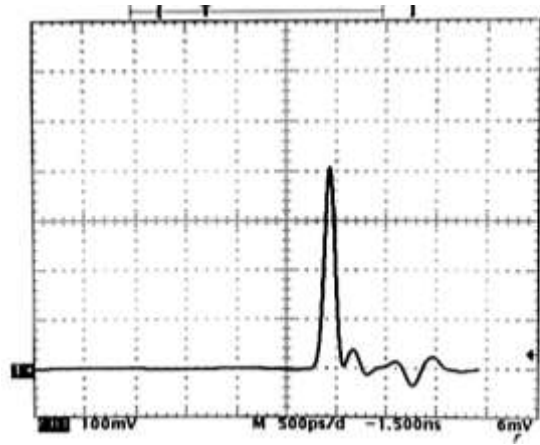


Ch1 +width  
134ps  
Ch1 Rise  
121ps

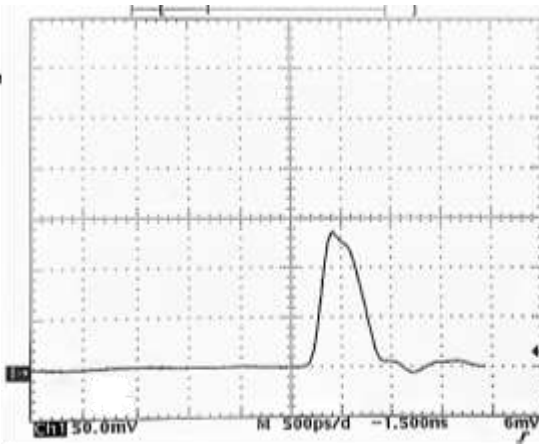


Ch1 +width  
415ps  
Ch1 Rise  
151ps

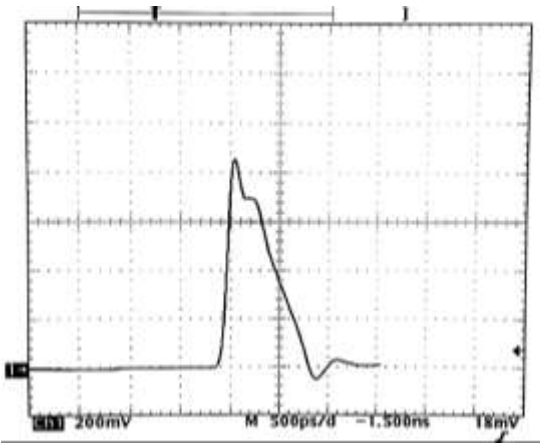
Test Laser: Oclaro LC96A1060 14-pin Butterfly



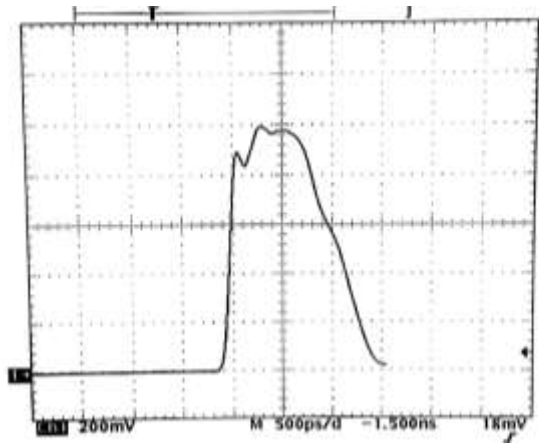
Ch1 +width  
128ps  
Ch1 Rise  
120ps



Ch1 +width  
443ps  
Ch1 Rise  
163ps



Ch1 +width  
500ps  
Ch1 Rise  
110ps



Ch1 +width  
1.106ns  
Ch1 Rise  
271ps



### PICOSECOND PULSED LASER DIODE DRIVER

- **ADJUSTABLE PULSE WIDTHS <150 ps TO >750 ps**
- **OUTPUT CURRENT UP TO 3.0 A**
- **COMPLIANCE VOLTAGE UP TO 10.0 V**
- **REPETITION RATE UP TO 1 MHz**
- **5.0 VDC INPUT POWER**
- **COMPACT SIZE**



### DESCRIPTION:

AMI's Model 767 picosecond pulse laser diode driver is ideal for applications which require pulse widths less than 1 ns. AMI's proprietary technology allows industry leading adjustable pulse width performance from <150 ps to over 750 ps. Output pulse amplitude and width are user-adjustable via on-board potentiometers. Repetition frequency will follow an external trigger signal from single shot up to 1 MHz. The driver circuitry operates from a single 5 V power source. All other needed voltages are generated on the board by high efficiency switching power supplies. Solder pads near the board's edge accept the most common laser diode packages (3.8 mm, 5.6 mm, 9 mm, 9.5 mm, and TO-18) with various pin configurations and accommodate either parallel or perpendicular mounting to the PCB. Applications include materials processing, time-resolved spectroscopy, LiDAR and others. Interface and MMCX coax mating cables are included with the unit.

### SPECIFICATION:



PARAMETER	Min.	Typical	Max.	Units
<b>INPUT</b>				
Power	4.75	5.0	5.25	VDC
Current	-	-	1.0	A
Trigger (50Ω Impedance)	3.7	-	5.0	V
<b>OUTPUT</b>				
Current*	-	-	3.0	A
Compliance Voltage	1.2	-	10.0	V
Pulse Width*	100	-	750	ps
Repetition Rate	Single Shot	-	1.0	MHz
Risetime (Optical)*	-	-	100	ps
<b>TEMPERATURE</b>				
Operating	0	-	+50	°C
Storage	-20	-	+70	°C
Humidity	< 95% Non-Condensing			

\* Output performance dependent upon laser diode characteristics. Performance cannot be guaranteed for all laser types. See optical output waveforms for example. Contact AMI to discuss your specific requirements.

Specifications are subject to change without notice.

### APPLICATIONS:

Seed Laser Diode Driver for Fiber Lasers, Time-Resolved Spectroscopy, LiDAR

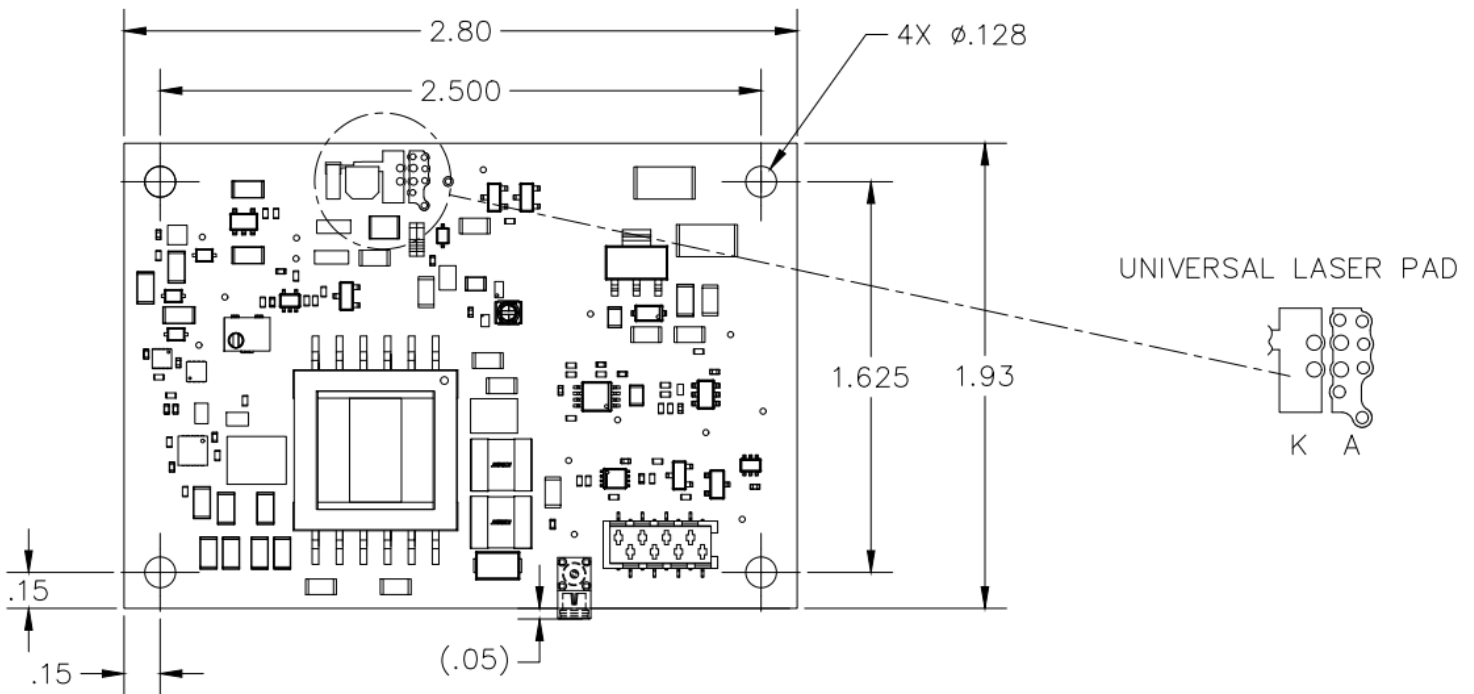




<b>CONNECTIONS:</b>	
Power/Interface:	8 Pin TE Connectivity MicroMatch Connectors (188275-8)
Trigger:	MMCX Micro Coax Connector
<b>SIZE:</b>	2.80" x 1.93" x 0.50"
<b>WEIGHT:</b>	1.1 oz. (31 grams)

I/O CONNECTOR Pinout	
JP1	
Pin	Function
1	Enable
2	GND
3	GND
4	+5 V Power
5	+5 V Power
6	GND
7	Spare
8	+5 V Power

### MECHANICAL OUTLINE:



DWG: 16-070 REV 1



UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.
TOLERANCES
DECIMAL
.XX=±.02
.XXX=±.005

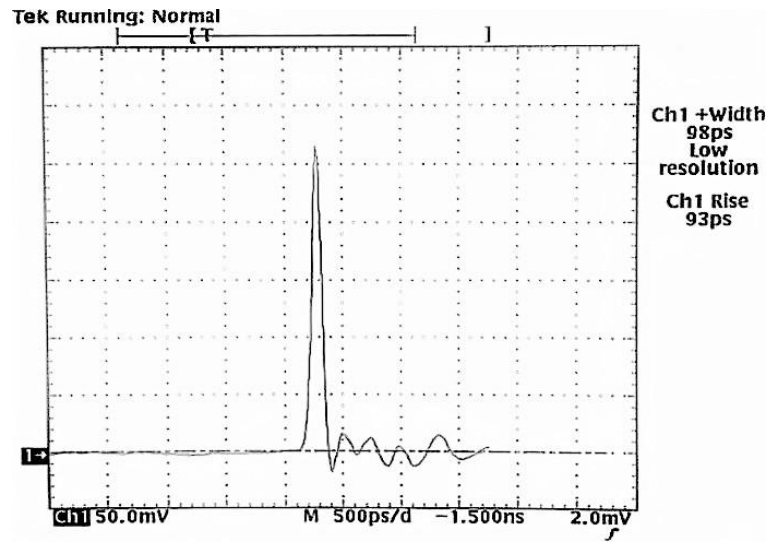
DWG: 16-070



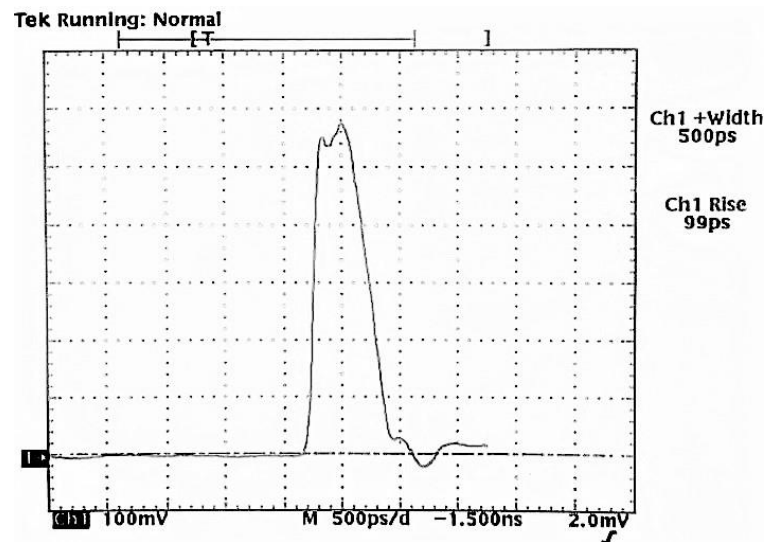
## OPTICAL OUTPUT WAVEFORMS:

Test Laser: CEL NX7539BB-AA 1550 nm

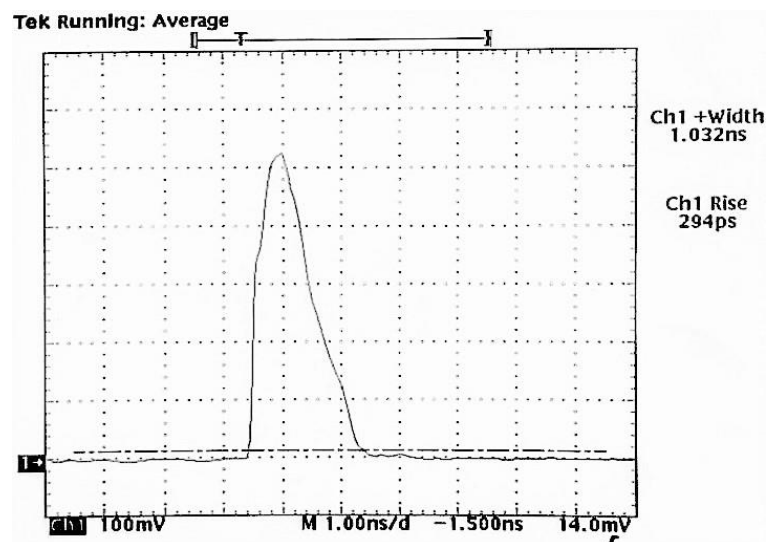
98 ps  
Pulse Width



500 ps  
Pulse Width



1 ns  
Pulse Width







# ANALOG MODULES, INC.

## Semiconductor Optical Amplifier Driver Assembly

- OUTPUT CURRENT UP TO 1.2 AMPS
- OUTPUT PULSEWIDTH <10ns TO CW
- FAST RISETIME OF 6ns
- COMPLIANCE VOLTAGE TO 3.0V
- TEC CONTROLLER
- +5VDC INPUT POWER
- RoHS COMPLIANT



### DESCRIPTION:

AMI's Model 7612A Semiconductor Optical Amplifier Driver is ideal for driving 14-pin butterfly packaged SOA or BOA modules for use as power boosters, optical switch, wavelength conversion and others. The driver is implemented as a transconductance amplifier (analog voltage in, scaled current out) and includes an on-board TEC controller for temperature stabilized operation of the optical amplifier. The driver circuitry operates from a single 5V power source. All other required voltages are generated on the board by high efficiency switching power supplies. The 7612A is manufactured to the RoHS Directive 2002/95/EC requirements. All required mating cables are included.

### SPECIFICATION:



PARAMETER	Min.	Typical	Max.	Units
<b>INPUT</b>				
Power	4.75	5.0	5.25	VDC
Current	-	0.330	3.5	A
Current Control (50 Ω Impedance, 0.333A/V Scaling)	0	-	4.5	V
<b>OUTPUT</b>				
Current	0.1	-	1.2	A
Bias Current (Trimpot adjustable)	0	-	90	mA
Compliance Voltage	-	2.0	3.0	V
Pulsewidth	6	-	CW*	ns
Repetition Rate	Single Shot	-	50*	MHz
Duty Cycle	0	-	100	%
Risetime (Optical) @ 1A	-	6	10	ns
Falltime (Optical) @ 1A	-	6	-	ns
TEC Current	0	1.80	3.0	A
TEC Voltage	0	3.14	4.2	V

\* Limited by maximum power dissipation.

Specifications are subject to change without notice.

### APPLICATIONS:

*Optical Switch, Booster Optical Amplifiers, Optical Coherence Tomography*

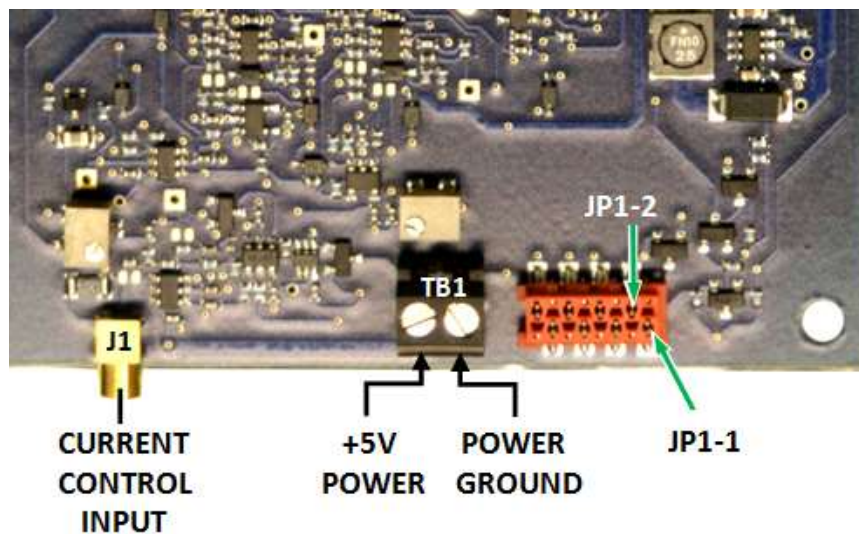




## ABSOLUTE MAXIMUM RATINGS:

PARAMETER	Min.	Max.	Units
<b>INPUT</b>			
Power	-	5.5	VDC
<b>OUTPUT</b>			
Power (25°C, still air)	-	1.0	W
Power (25°C, ≥ 200LFM forced air)	-	1.25	W
<b>TEMPERATURE</b>			
Operating:	0	+50	°C
Storage:	-20	+70	°C
Humidity:		< 95% Non-Condensing	

<b>PROTECTION:</b>	Adjustable current limit
	Driver disabled when laser diode die temperature is outside of TEC set point by $\pm 1^\circ\text{C}$
	Driver disabled when the laser current driving FET's junction temperature exceeds $125^\circ\text{C}$
<b>CONNECTIONS:</b>	
Power:	2 pin Terminal Block ( <i>Molex 39357-002</i> )
Interface:	8 Pin TE Connectivity ( <i>188275-8</i> )
Current Control:	MMCX Micro Coax Connector
<b>SIZE:</b>	3.44" x 3.00" x 0.75"
<b>THERMAL:</b>	On-board TEC Controller will provide heating and cooling as necessary to maintain desired operating point. Thermistor and the TE cooler are in the optical amplifier package (not included). Customer may need to provide thermal mass and/or forced air for heatsinking under high dissipation conditions.



**INPUT/OUTPUT and POWER CONNECTORS**

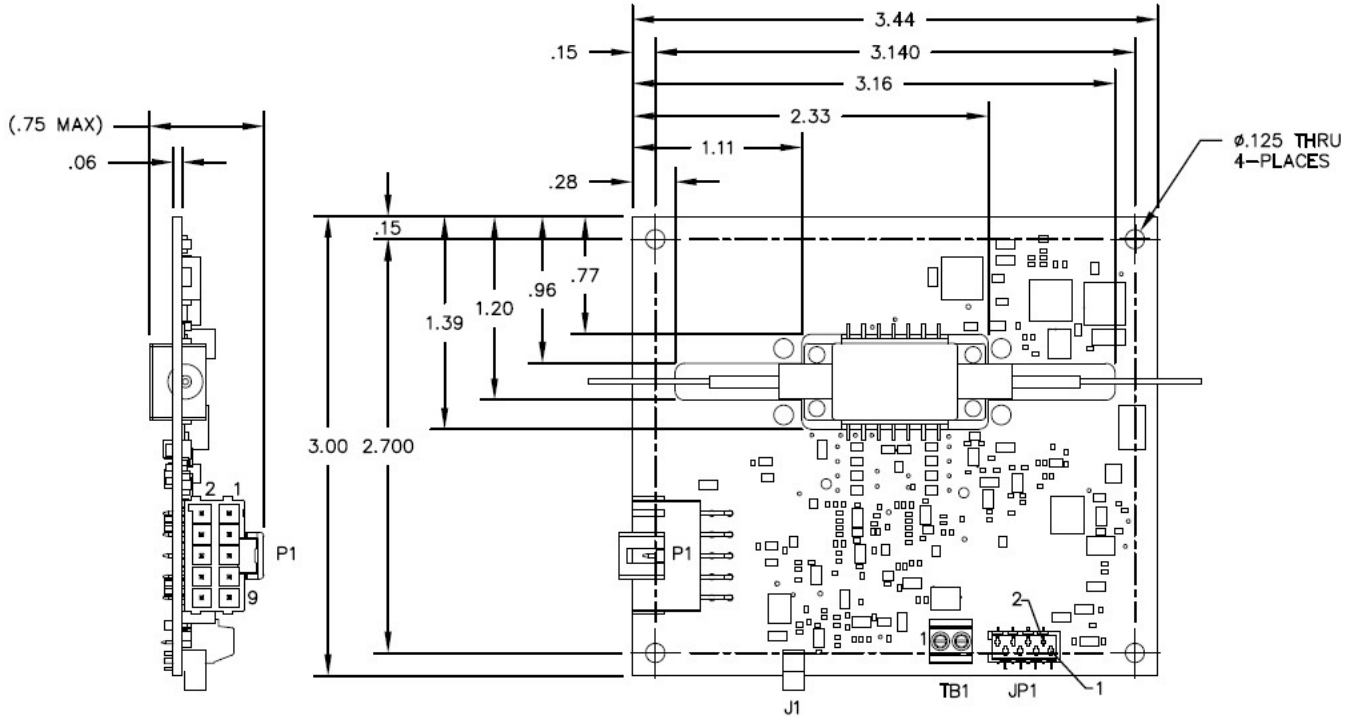


I/O CONNECTOR Pinout	
JP1	
Pin	Function
1	Enable
2	GND
3	Temp Fault
4	GND
5	Over Current
6	GND
7	N/C
8	GND

JP1 PIN DESCRIPTION

SOA Pinout	
Pin	Function
1	TEC +
2	Thermistor
3	N/C
4	N/C
5	Thermistor
6	N/C
7	N/C
8	N/C
9	N/C
10	Anode
11	Cathode
12	N/C
13	Case Ground
14	TEC -

14-PIN BUTTERFLY PACKAGE PINOUT



MECHANICAL OUTLINE DRAWING