Short Pulse Laser Diode Driver Butterfly

up to 1A, <1ns

DATASHEET

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The SPLD short-pulse seed laser diode driver is designed for driving butterfly packaged laser diode modules in applications requiring pulse widths of less than 1 ns. Typical applications include materials processing, time-resolved spectroscopy, LIDAR, and others. The driver circuitry delivers output current pulses of up to 1 A with pulse widths under 1 ns. It operates from a single 5 V power supply.

Features

- Output Current up to 0.5 A
- Repetition Rate up to 10 MHz
- 5.0 VDC Input Power
- Compact Size
- Low Cost

Applications

- Medical Laser Treatment
- Biotechnology
- Others

RoHS COMPLIANT

Specifications

Parameter	Mini	Typical	Max	Unit
Input Power	4.75	5.0	5.25	VDC
Input Current		0.330	2.5	A
Input Trigger (50 Ω Impedance)	3.85		5.0	V
Output Current *	0.4		1.1	A
Output Compliance Voltage	1.2		10.0	V
Output Pulse Width *	0.5		1.0	ns
Repetition Rate	Single Shot		1.0	MHz
Risetime (Optical) *		100		ps
TEC Current	0	1.80		A
TEC Voltage	0	3.14		V
Operating Temperature	0		+50	°C
Storage Temperature	-20		+70	°C
Humidity	< 95% Non-Condensing			

Notes:

[1]. Specifications apply to electrical performance only. Optical performance depends on the characteristics of the laser diode and cannot be guaranteed for all laser types. Refer to optical output waveforms for examples. Contact Agiltron to discuss your specific requirements

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Mechanical Dimensions (mm)

Top View

Connections

	Function
Black	GND
Red	5V DC Power
SMA	Control Input
Square Dot In Circle	Laser +
Red C3 in Circle	Laser – (GND)

*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

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Ordering Information (Part Number)

	10	Y	1	☐	☐	1	1	1
Prefix	**Max Current**	**Temperature Control**	**Laser Mount**	**Package ***	**Laser ****			
SPLD-	1A = 10	Yes = Y	Internal = 1 External = 2	PCB = 1 Benchtop = 2	No include = 1 Include = 2			

* Benchtop is a plug-play unit including DC power supply inside and a front SMA input.

** We have lasers of various wavelengths, if customer also purchase our butterfly laser, we will mount and provide pulse test result

Applications (with TEC)

PROTECTION:	Driver disabled when laser diode die temperature is outside of TEC set point by ±1˚C.
	Driver disabled when power exceeds maximum dissipation.
CONNECTIONS:	
Power:	2 pin Terminal Block (*Molex 39257-0002)*
Interface:	8 Pin TE Connectivity MicroMatch Connectors (*188275-8*)
Trigger:	MMCX Micro Coax Connector
SIZE:	2.9” x 3.09” x 0.52”
THERMAL:	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.

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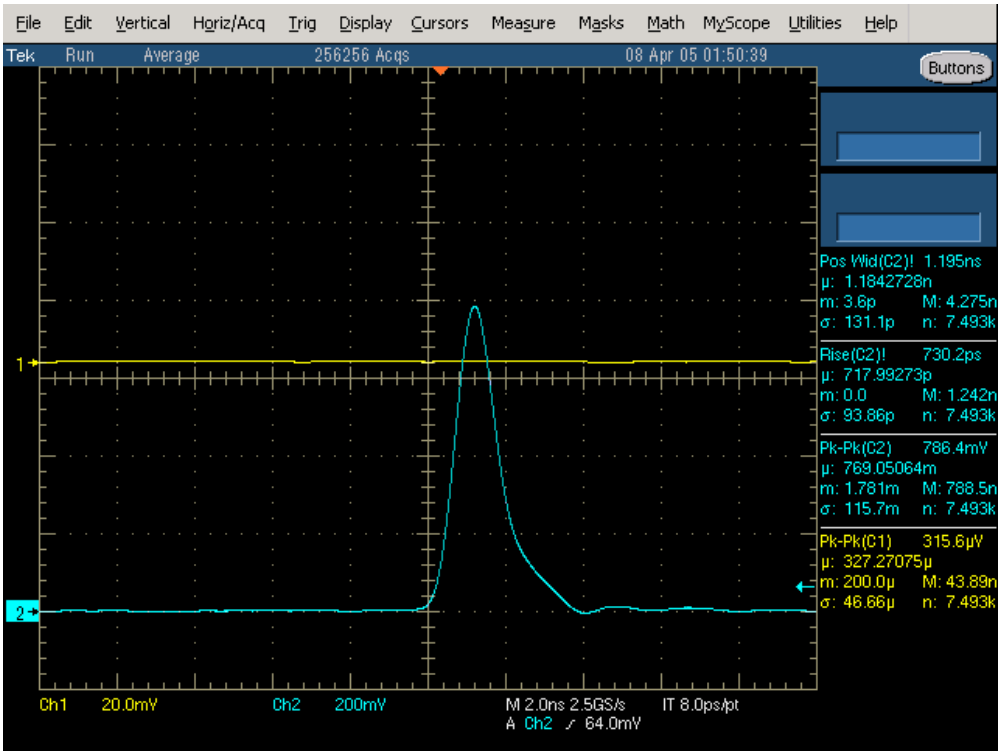
Typical Spectrum



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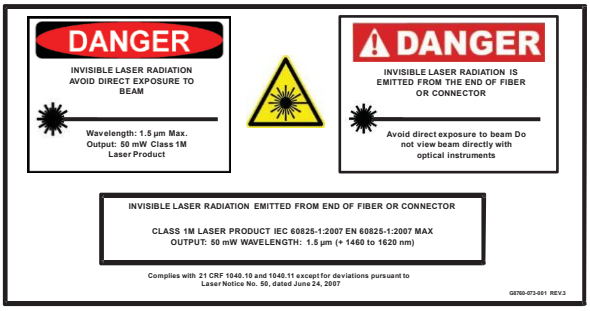
Laser Safety

This product meets the appropriate standard in Title 21 of the Code of Federal Regulations (CFR). FDA/CDRH Class 1M laser product. This device has been classified with the FDA/CDRH under accession number 0220191. All versions of this laser are Class 1M laser products, tested according to IEC 60825-1:2007 / EN 60825-1:2007. An additional warning for Class 1M laser products. For diverging beams, this warning shall state that viewing the laser output with certain optical instruments (for example eye loupes, magnifiers, and microscopes) within a distance of 100 mm may pose an eye hazard. For collimated beams, this warning shall state that viewing the laser output with certain instruments designed for use at a distance (for example telescopes and binoculars) may pose an eye hazard.

Wavelength = 1.3/1.5 µm.

Maximum power = 30 mW.



*Caution - Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
*IEC is a registered trademark of the International Electrotechnical Commission.

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