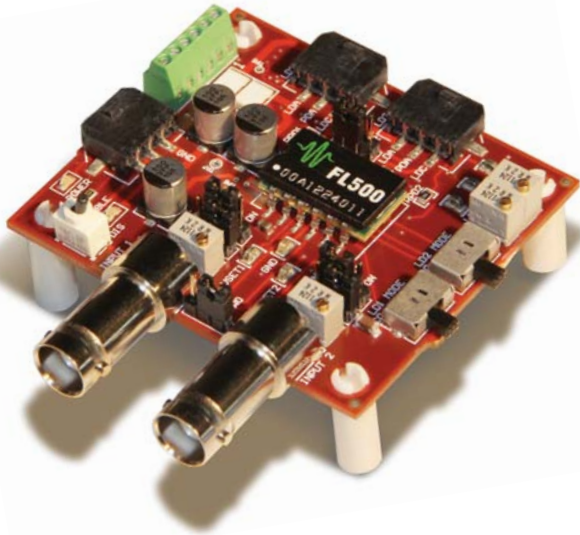


FL591FL FL500 Evaluation Board



FEATURES

- Two independent 250 mA outputs, or a single 500 mA output
- Single 3 – 12 VDC power supply operation
- Trimpots and switches on the evaluation board
 - » Output Enable
 - » Current Setpoint
 - » Current Limit
 - » Constant Current or Constant Power control
- Remote adjustments for OEM prototyping
 - » Current setpoint and modulation
 - » Output Enable
- Monitors for output current, photodiode current, output current limit
- Safety features protect the laser diode
 - » CDRH Output On delay and slow start
 - » Clamping current limit
 - » Brown-out protection

SIMPLE AND FAST EVALUATION

The FL591FL Evaluation Board allows you to quickly and efficiently evaluate the FL500 Laser Diode Driver and prototype your laser electronics system.

The evaluation board is designed so that you can fully characterize the included FL500—you'll know exactly how it will perform in your application, and there will be no surprises during the development process. Ultimately, you'll bring your system to market faster and at lower cost.

The FL500 is commonly used in hand-held, portable, and space constrained applications. Small and light weight, the FL500 is ideal for airborne applications, and the dual-channel output is perfect for sighting-and-detection applications.

DESIGNED FOR MAXIMUM VERSATILITY

The FL591FL is loaded with useful features to help simplify the prototyping process. For example, there are several setpoint-output combinations:

- Two independent outputs, each driving up to 250 mA, and controlled by separate setpoint signals
- Two independent 250 mA outputs controlled by a single setpoint signal
- A single output, driving up to 500 mA

The current limits are set using onboard trimpots, and without enabling the output. The setpoint is controlled using the onboard trimpots, or use the BNC connector for external control. The onboard and BNC setpoints can be summed, so the laser can be driven in a DC Bias + Modulation configuration.

The control mode—Constant Current or Constant Power—is set with onboard switches. When operated as two independent drivers, the two channels can be operated in different modes.

MORE PRACTICAL FEATURES

Thoughtfully designed features provide valuable benefits and protect the laser against operational anomalies:

- The Enable input can be connected to a safety interlock, or coupled to a temperature controller to disable the output if the lasers exceed a safe operating temperature.
- Drive current and photodiode current monitor outputs can be tied to an external control and monitor circuit so you can characterize every aspect of your laser control system.
- Easy access to the setpoint and current limit reference signals for design evaluation and validation of your laser control electronics.

COUNT ON WAVELENGTH ELECTRONICS

Our Sales Engineers have the experience to help you choose the right laser diode driver for your application. Call today or visit our website to find out how Wavelength Electronics can help you to be successful.

FL59 | FL500 Evaluation Board

FL59 | FL SPECIFICATIONS

SPECIFICATION	TWO-CHANNEL OPERATION	SINGLE-CHANNEL OPERATION	UNIT	NOTE
DRIVER OUTPUT CURRENT				
Max Output Current	(2x) 250	(1x) 500	mA	
Laser Driver Power Dissipation	1 W per channel	2 W total		
Short Term Stability, 1 hr	35 to 40		ppm	Constant Current mode
Long Term Stability, 24 hr	50 to 75		ppm	Constant Current mode
Compliance Voltage	> 4		V	$V_s = 5$ V; see datasheet for details
Photodiode Feedback Range	0 – 1		mA	PD current range can be adjusted
EXTERNAL MODULATION				
3dB Bandwidth, Constant Current	500		kHz	sine wave modulation
Rise / Fall Time	300 / 300		nsec	to full scale
Depth of Modulation at 100 kHz	99		%	sine wave output
POWER SUPPLY REQUIREMENTS				
Supply Voltage (V_s)	3 – 12		VDC	
Quiescent Current, Max	100		mA	at $V_s = 9$ V
ABSOLUTE MAXIMUM RATINGS				
	VALUE	UNIT	NOTE	
Supply Voltage (V_s)	12	VDC		
Case Operating Temperature	-40 to 85	°C		
Case Storage Temperature	-55 to 125	°C		
Weight	1.7	oz	47.6 g	
Size	2.97 x 2.50 x 1.07	inches	75.5 x 63.5 x 27.1 mm	

Additional specifications are available in the product datasheet; download at www.teamWavelength.com/products/product.asp?part=149

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
FL591FL	FL500 Evaluation Board, with FL500



Free, effective, and responsive technical support is available to simplify integration of Wavelength products into your OEM design. Standard product can be modified to meet your unique application requirements.

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