

## Product Brief

### FEATURES

- Low-noise programmable current source up to 1.2A
- Integrated TEC controller/driver
- SPI Interface (includes USB to SPI cable)
- Software GUI provides computer control
- Non-volatile storage of bias and temperature setpoints
- Analog inputs for fine laser temperature and bias control

### Notes:

1. From digitally programmed temperature setpoint
2. Corresponds to 0-20uA monitor photodiode photocurrent

### OVERVIEW

The FP4525 Whisper Drive is a stand-alone solution for driving our DFB laser products. The driver consists of a programmable laser bias current source (1A maximum) as well as a thermoelectric cooler (TEC) controller/driver with programmable temperature setpoint. The FP4525 is computer controlled using the supplied USB to SPI adapter cable and software interface. Bias and temperature setpoints can be stored in non-volatile memory for use without requiring computer control. The current source and TEC driver are all-linear, low-noise implementations to prevent degradation of laser performance. Analog inputs are provided for fine adjustment of laser setpoints and for customer-implemented closed loop control. An internal transimpedance amplifier converts the monitor photodiode photocurrent into an analog voltage available on the interface connector. A power supply is provided.

### SPECIFICATIONS

Parameter	Symbol	Value	Unit
Laser Bias Current	FSI	0-1	A
Laser Bias Current Setpoint Resolution		1	mA
Laser Temperature Setpoint	T <sub>laser</sub>	10-40	°C
Laser Temperature Setpoint Resolution		0.03	°C
TEC Voltage (maximum)		±2	V
TEC Current (maximum)		±4	A
Power Adjust Analog Input Voltage	VPA	0-2	V
Power Adjust Current Adjustment		0-1	A
Temperature Adjust Analog Input Voltage	VTA	0-2	V
Temperature Adjust Magnitude <sup>1</sup>		±4	°C
Monitor PD Output Voltage <sup>2</sup>	VMON	0-3	V
Input Supply Voltage		5	V
Input Supply Current (maximum)		5.5	A

