Fiber Optical Detector Array USB

(4, 8, 10 channels, on amplifier PCB)

DATASHEET

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The Integrated Fiber Photodetector Array (FPDA) is a multi-channel optical power-measurement module that combines a fiber-coupled photodiode array with a precision amplification PCB in a compact format. The FPDA provides wide wavelength coverage, low dark current, and excellent temperature stability across the operating range. Each channel includes a dedicated fiber input and transimpedance amplifier, integrated with a 14-pin photodiode array package for compact and reliable routing. The readout electronics feature a USB/RS-232 interface for digital monitoring and control. Custom configurations are available to support specialized channel counts, wavelength ranges, or fiber types.

Features

- Low Dark Current
- Ease PCB Mount
- Wide Wavelength
- High Stability

Applications

- WDM Channel Monitor
- System Monitor
- Sensor

Specifications

Parameter		Min	Typical	Max	Unit
Operation Wavelength		450		2620	nm
Resolution		0.1			%
Repeatability			0.1		dB
Channel Scan Rate				100	Hz
Respond Speed				1	ms
Measuring Range	(850-1630nm)	-35		10	dBm
	(600-950nm)	-20		10	
Measurement Accuracy				0.4	dB
DC Power Consumption				1	W
Data Interface			Micro USB		
Temperature Dependence (0 -50 °C)				0.3	dB
Responsivity Polarization Dependence				0.1	dB
DC Power Supply		4.8		5.5	V
Operating Temperature		-5		70	°C
Storage Temperature		-40		85	°C

Warning: **The device is extremely ESD-sensitive. Its dark current increases by unprotected handling. It is recommended to be handled under a certified ion fan once the package is removed.**

Rev 11/06/25

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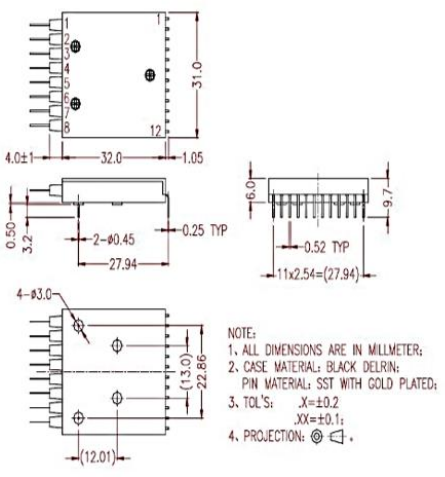
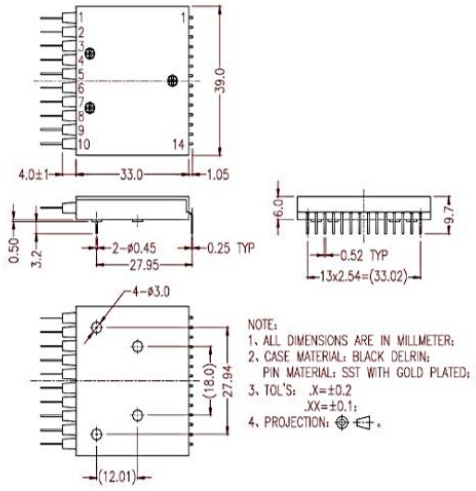
Mechanical Dimensions (mm)

2) 8-ch ITMA



3) 10-ch ITMA



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

Electrical/Computer Connection

8-ch ITMA

Electrical Pin Assignment		
Pin #:	**Common Cathode Assignment**	**Common Anode Assignment**
Pin 1:	Common Cathode for Ch1 - 2	Common Anode for Ch1 - 2
Pin 2:	Anode Ch1	Cathode Ch1
Pin 3:	Anode Ch2	Cathode Ch2
Pin 4:	Common Cathode for Ch3 - 4	Common Anode for Ch3 - 4
Pin 5:	Anode Ch3	Cathode Ch3
Pin 6:	Anode Ch4	Cathode Ch4
Pin 7:	Anode Ch5	Cathode Ch5
Pin 8:	Common Cathode for Ch5 - 6	Common Anode for Ch5 - 6
Pin 9:	Anode Ch6	Cathode Ch6
Pin 10:	Anode Ch7	Cathode Ch7
Pin 11:	Common Cathode for Ch7 - 8	Common Anode for Ch7 - 8
Pin 12:	Anode Ch8	Cathode Ch8

10-ch ITMA

Electrical Pin Assignment		
Pin #:	**Common Cathode Assignment**	**Common Anode Assignment**
Pin 1:	Common Cathode for Ch1 - 4	Common Anode for Ch1 - 4
Pin 2:	Anode Ch1	Cathode Ch1
Pin 3:	Anode Ch2	Cathode Ch2
Pin 4:	Anode Ch3	Cathode Ch3
Pin 5:	Anode Ch4	Cathode Ch4
Pin 6:	Anode Ch5	Cathode Ch5
Pin 7:	Common Cathode for Ch5 - 8	Common Anode for Ch5 - 8
Pin 8:	Anode Ch6	Cathode Ch6
Pin 9:	Anode Ch7	Cathode Ch7
Pin 10:	Anode Ch8	Cathode Ch8
Pin 11:	Anode Ch9	Cathode Ch9
Pin 12:	Common Cathode for Ch9 - 10	Common Anode for Ch9 - 10
Pin 13:	Anode Ch10	Cathode Ch10
Pin 14:	Not connected	Not connected

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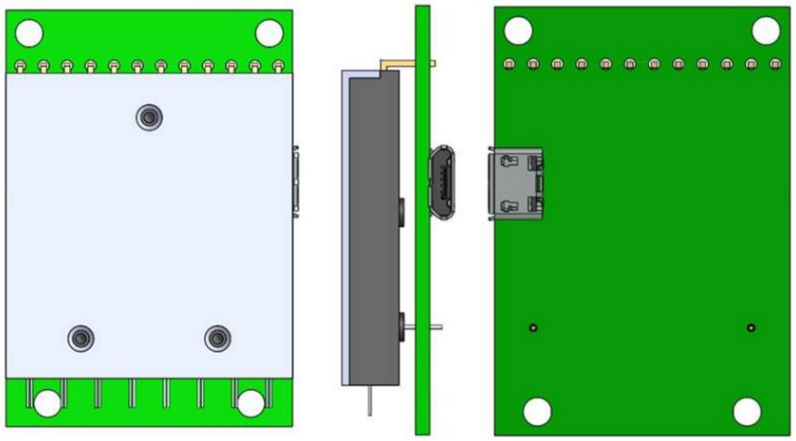
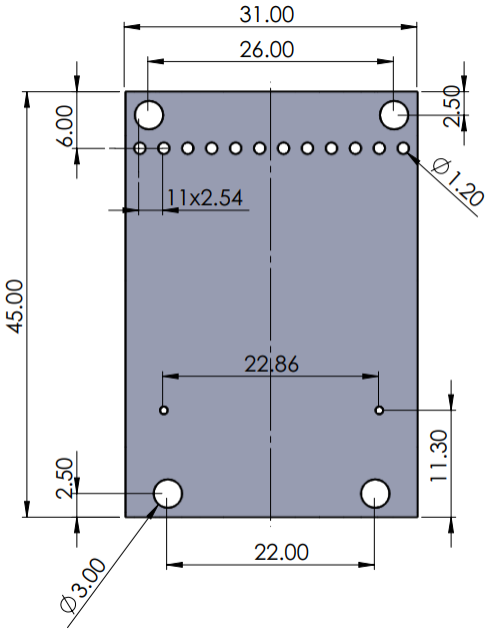
Amplifier Daughter PCB

This amplifier PCB is designed as a daughterboard for integration with a detector array. It features a switch-based scanner that supports up to 24 optical detectors, enabling multichannel optical power measurement. The amplifier offers a programmable gain range from 10 to 1,000,000, and the digital output for each channel is individually calibrated via software to accommodate different detector types and wavelengths. The interface is USB/RS232





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Ordering Information

	☐☐	☐	1	1	☐	☐	☐	☐
Prefix	**No. Channel**	**Wavelength**		**Package**	**Fiber Type**	**Fiber Cover**	**Fiber Length**	**Connector ****
FPDA-	8 = 08 10 = 10 4 = 04	1000-1620nm = 1 450 -950nm = 2 1650-2200nm = 3 1750-2600nm = 4 250-400nm = 5			SMF-28 = 1 ***Select below***	Bare fiber = 1 0.9mm tube = 2	0.25m = 1 0.5m = 2 1.0 m = 3 Special = 0	None = 1 FC/PC = 2 FC/APC = 3 SC/PC = 4 SC/APC = 5 ST/PC = 6 LC/PC = 7 LC/APC = A LC/UPC = U Special = 0

** Bare Fiber with connector is easy to beak

Fiber Type Selection Table:

01	SMF-28	34	PM1550	71	MM 50/125µm
02	SMF-28e	35	PM1950	72	MM 62.5µm
03	Corning XB	36	PM1310	73	105/125µm
04	SM450	37	PM400	74	FG105LCA
05	SM1950	38	PM480	75	FG50LGA
06	SM600	39	PM630	76	STP 50/125
07	Hi780	40	PM850	77	IRZS23
08	SM800	41	PM980	78	IRFS32
09	SM980	42	PM780	79	
10	Hi1060	43	PM350	80	PCF
11	SM400	44	PM405	81	UV180nm
12		45	PM460	82	LMA-PM-10
13		46			

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Caution Electrostatic Sensitivity

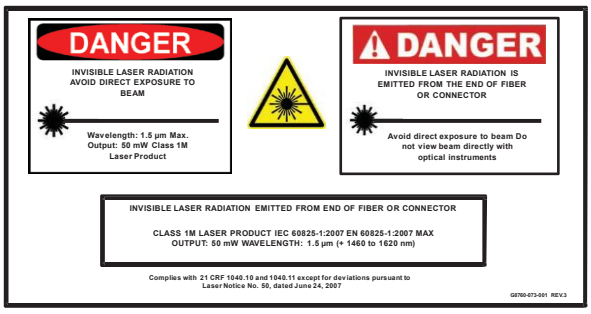
- Never touch laser diode and the module using hands
- Always use protections when handle a laser diode
- Recommend mounting the laser diode using an ionic gun and ESD finger cots

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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