ExOptronics, Inc
www.exoptronics.com
Phone: 1-310-928-6368
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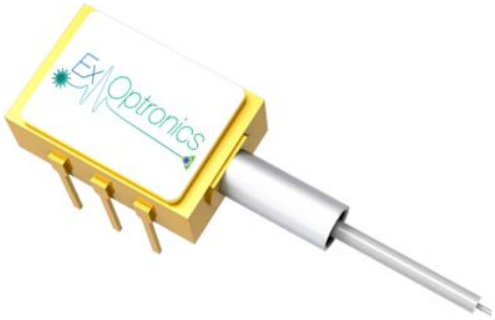
EX-FPFT-X-X-X-X InGaAs PIN-FET

Description

EX-FPFT-X-X-X-X is an assembly of a InGaAs PIN photodiode with a high impedance FET(Field-Effect Transistor) preamplifier for high sensitivity, low noise and wide dynamic range application. They are hermetically sealed inside the standard 14-pin, 8-pin or 6-pin package for reliable and wide temperature operation.

Key features

- Built-in trans-impedance amplifier circuit
- Low Noise and high sensitivity
- High Linearity
- Variable bandwidth/responsivity
- Selectable 14/8/6 pins Package
- Excellent Consistency and Reliability



Applications

- Fiber Optic Gyroscope (FOG)
- Fiber Optic Current Transformer(FOCT)
- Fiber Optic Sensing

Absolute Maximum Rating:

Parameter	Sym.	Condition	Rating	Unit
Storage Temperature	T_s	-	-55 to +85	°C
Operating Temperature	T_{op}	-	-20 to +70	°C
Power supply voltage	Vcc/Vee		6	V
Forward current	I_f	-	2	mA
Reverse photo Current	Ir	-	5	mA
Fiber coupled power	V_f		5	mW
Lead soldering temperature	T_p	-	<260	°C
Lead soldering time	t_p	-	<10	sec

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Electro-Optical Characteristics:

(Tested under V_{SS}=-5V, V_{SS}=+5V；-50℃~+70℃.)

Parameter		Noise (mV)	Voltage responsivity (V/μW)	Bandwidth (MHz)	Sensitivity (dBm)	Dynamic range (dB)	Voltage responsivity Change ratio （%）	DC voltage Change rate (mV/℃)
Symbol		Vn	Re	BW	St	D_Y	ΔRe	ΔV
Test conditions		Φin=0 μW	Φin=1 μW	—	f =（10±0.1）kHz Φin= 1μW		Φin=1μW	Φin=0μW
Wavelength /trans-resistance (nm/kΩ)	1550/20	≤0.6	≥0.017	≥18	≤ -35	≥25	≤10	≤1.5
	1550/40		≥0.034	≥13	≤ -40			
	1550/60		≥0.051	≥11	≤ -41			
	1310/100		≥0.085	≥7	≤ -45			
	1310/200		≥0.017	≥10	≤ -46			
	1310/400		≥0.034	≥5	≤ -49			
	1310/500		≥0.0425	≥4	≤ -50			
	1310/800		≥0.628	≥3	≤ -52			
	1310/1200		≥1.02	≥1.5	≤ -53			

Ordering Options:

EX-FPFT-X-XX0X

Product code	Package Type	Trans-Impedance	Output pigtail
EX-FPFT-S-XF01	8 pins	200K	125/250 SM Fiber
EX-FPFT-S-XH02	8 pins	400k	125/250 SM Fiber
EX-FPFT-F-GF02	Mini 8 pins	200K	80/165 SM Fiber
EX-FPFT-F-GH01	Mini 8 pins	400k	80/165 SM Fiber
EX-FPFT-G-GF02	Mini 6 pins	200K	80/165 SM Fiber
EX-FPFT-D-XJ02	14 pins	800k	125/250 SM Fiber

- no optical connector is default

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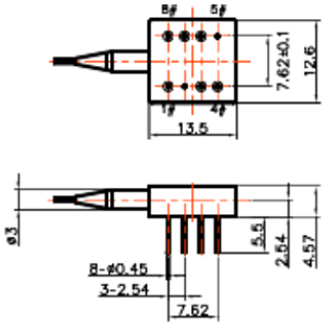
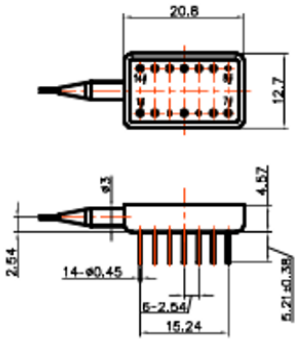
Outline Drawing - Unit: (in) mm



S Type



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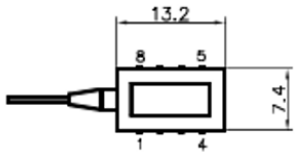

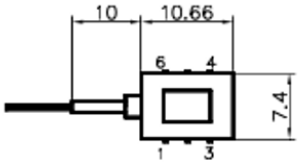

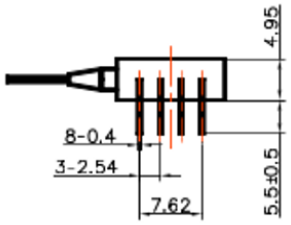

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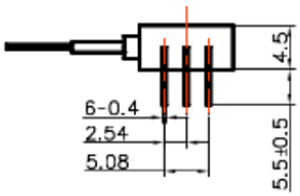

G Type

PIN assignment

S/F Type

Package type	PIN	Symbol	Describe	PIN	Symbol	Describe
Metal 8-pin	1	NC	Empty	5	VSS	Negative supply voltage
	2	VSS	Negative supply voltage	6	VOUT	Signal output
	3	GND	Ground	7	GND	Ground
	4	VCC	Positive supply voltage	8	NC	Empty

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D Type

Package type	PIN	Symbol	Describe	PIN	Symbol	Describe
Metal 14-pin	1	VSS	Negative supply voltage	8	GND	Ground
	2	NC	Empty	9	NC	Empty
	3	GND	Ground	10	VCC	Positive supply voltage
	4	VSS	Negative supply voltage	11	NC	Empty
	5	GND	Ground	12	NC	Empty
	6	NC	Empty	13	NC	Empty
	7	VOUT	Signal output	14	NC	Empty

G Type

Ceramic 6-pin	1	VSS	Negative supply voltage	4	VSS	Negative supply voltage
	2	GND	Ground	5	VOUT	Signal output
	3	VCC	Positive supply voltage	6	NC	Empty

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