

PIN-FET Optical Receiver Modules

The Laser Diode Incorporated PIN-FET provides an excellent solution for optical receiver systems that require both high sensitivity and wide dynamic range. Applications include telecommunications line-terminating equipment or repeaters and optical sensor systems. ,Indium Gallium Arsenide (InGaAs) PIN photodiode with high responsivity between wavelengths of 1100nm and 1650nm (higher wavelengths also available). The detector is mounted directly onto a hybrid circuit assembly for optimum signal performance . In addition , low-noise MESFERS are use in the amplifier stages to further enhance device performance . The fiber pigtail is actively aligned with the detector and soldered in place to provide a highly stable coupling mechanism .

Features

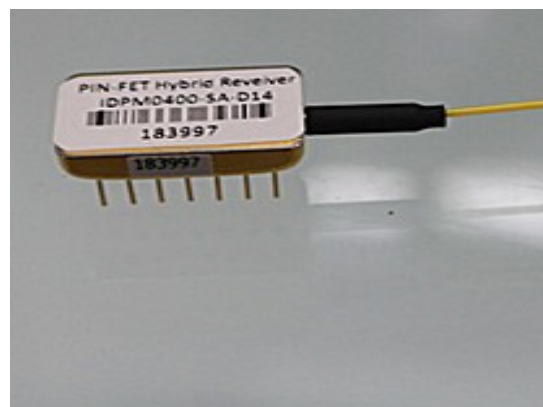
- Response wavelength range
- High sensitivity
- Wide Dynamic Range
- High reliability

Application

- Optic test
- Optical fiber transmission system
- Fiber-optic sensor

Absolute Maximum Rating (T=25°C)

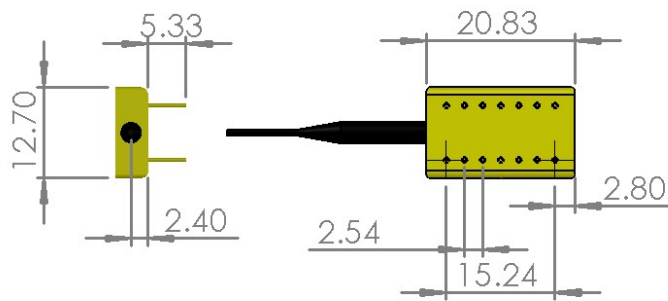
Parameter	Symbol	Min	Max	Unit
Storage Temperature Range	Ts	-40	+85	°C
Case Operating Temperature Range	Tc	-20	+70	°C
Positive Power Supply Voltage	Vcc+	-	5.5	V
Negative Power Supply voltage	Vcc-	-	-5.5	V
PD reverse bias	VPD	-	15	V
Soldering temperature	STemp	-	260	°C
Soldering time at 260°C	STime	-	10	S



Common Characteristics (T=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Note	
Operating wavelength	λ_P	1100	--	1650	nm		
-3dB Bandwidth	Model A	BW	4		MHZ	$\lambda=1310\text{nm}$, $P_o=-30\text{dBm}$	
	Model B	BW	12		MHZ	$\lambda=1310\text{nm}$, $P_o=-30\text{dBm}$	
Responsivity	Model A	Re	0.95		V/uW	$\lambda=1310\text{nm}$,	
	Model B	Re	0.57		V/uW	$\lambda=1310\text{nm}$,	
Sensitivity	Model A	S	-56	-51	dBm	$\lambda=1310\text{nm}$, NRZ 8Mb/s, PRBR= $2^{23}-1$, BER= 10^{-9}	
	Model B	S	-52	-48	dBm	$\lambda=1310\text{nm}$, NRZ 8Mb/s, PRBR= $2^{23}-1$, BER= 10^{-9}	
Transimpedance	Model A	Rz	1000K		Ω		
	Model B	Rz	600k		Ω		
Root-mean-square	Model A	VN(rms)	--	0.5	0.8	mV	VPD=5V, Vcc=5V
Noise voltage	Model B	VN(rms)	--	0.3	0.5	mV	VPD=5V, Vcc=5V
Dynamic Range		D	25			dB	

Package Dimensions & Pin Connections



Pin	Describe	Pin	Describe
1	Power-5V	8	Ground
2	null	9	null
3	Ground	10	Power+5V
4	Power-5V	11	null
5	Ground	12	null
6	null	13	null
7	Output	14	null

Order Information

P/N: PF - ①-②-③-④-⑤-⑥

①
Bandwidth
Model A
Model B

③
Fiber Type
P : PMF
S : SMF

④
Fiber Diameter
2 : 250 μm
9 : 900 μm

⑤
Fiber Length
1 : 0.8 m
2 : 1.0 m
X : XX

⑥
Connector
0 : Bare Fiber
FA : FC/APC
SA : SC/APC

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