

PIN-FET optical receiver modules

FGDRPF-x50x-00

Overview:

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. The receiver package offers high reliability satisfying Telcordia specifications.

Laser Diode's standard PIN-FETs use a low dark current, 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:

- InGaAs pin PD
- Response wavelength range 1100~1650nm
- Standard 14pin DIP with multi-mode or single-mode pigtail package
- High sensitivity
- Wide Dynamic Range
- High reliability, accord with GR-468-CORE
- Product accord with RoHS

Application:

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



Absolute Maximum Ratings (T=25°C)

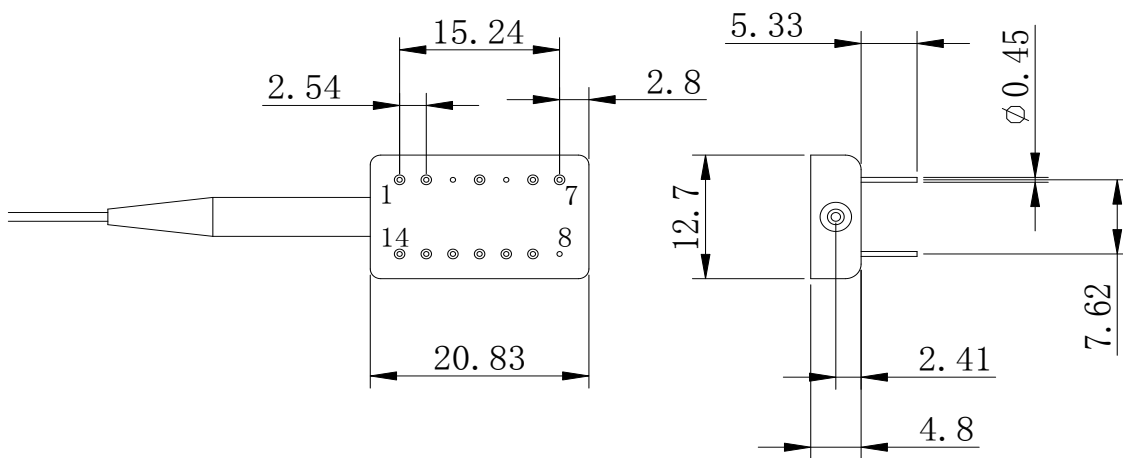
Parameter	Symbol	Min	Max	Unit	Note
Storage Temperature Range	T _s	-40	+85	°C	--
Case Operating Temperature Range	T _c	-20	+70	°C	
Positive Power Supply Voltage	V _{cc+}	-	5.5	V	--
Negative Power Supply voltage	V _{cc-}	-	-5.5	V	
PD reverse bias	V _{PD}	-	15	V	
Soldering temperature	Stemp	-	260	°C	
Soldering 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 B) (model C)	BW		4 12		MHZ	$\lambda = 1310\text{nm}$, , Po=-30dBm
Responsivity (model B) (model C)	Re		0.95 0.57		V/uW	$\lambda = 1310\text{nm}$,
sensitivity (model B) (model C)	S		-56 -52	-51 -48	dBm	$\lambda = 1310\text{nm}$, NRZ 8Mb/s, PRBR=2 ²³ -1, BER=10 ⁻⁹

Transimpedance (model B) (model C)	Rz		1000K 600k		Ω	
Root-mean-square Noise voltage (model B) (model C)	V _{N(rms)}	--	0.5 0.3	0.8 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:

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