

PIN Photodiode

FID3Z1KX/LX

FEATURES

- Data rates up to 2.5 Gb/s
- High Quantum Efficiency: 0.8A/W at 1,310nm
- Low dark current: 0.1nA
- Photosensitive area: 50µm diameter
- Wide spectral response range: 900nm to 1,600nm

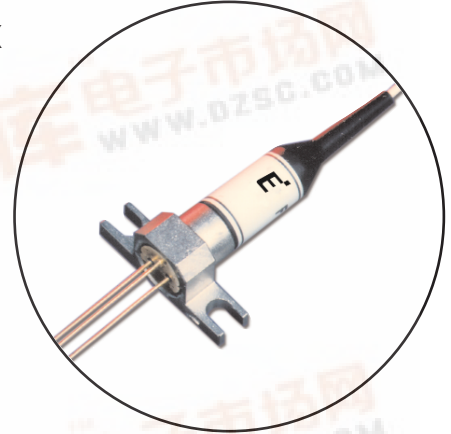
APPLICATIONS

- Optical transmission system: STM-1 (OC-3), STM-4 (OC-12) or STM-16 (OC-48) short haul.

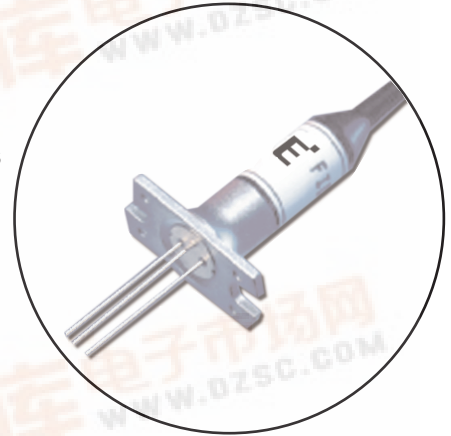
DESCRIPTION

The FID3Z1KX/LX is a PIN photodiode with a multimode fiber pigtail designed for use in local area network, subscriber loop and high bit-rate transmission system applications up to 2.5 Gb/s at both 1,310nm and 1,550nm wavelength. The PIN chip has a photosensitivity area diameter of 50µm with a planar structure and guard ring for high reliability. A multimode fiber is aligned to the hermetically sealed PIN diode. The optical alignment system has the high coupling stability.

KX



LX



FID3Z1KX/LX PIN Photodiode

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Parameter	Symbol	Ratings	Unit
Storage Temperature	T _{stg}	-40 to +90	°C
Operating Case Temperature	T _{op}	-40 to +85	°C
Forward Current	I _F	5	mA
Reverse Current	I _R	2.0	mA
Reverse Voltage	V _R	20	V

OPTICAL & ELECTRICAL CHARACTERISTICS (T_a=25°C)

Parameter	Symbol	Conditions	Limits		Unit
			Min.	Max.	
Responsivity	R	V _R =1V, 1300nm	0.75	-	A/W
		V _R =1V, 1500nm	0.8	-	A/W
Variation of Responsivity	ΔR	V _R =1V, -20 to +70°C	-	±3	%
		V _R =1V, -40 to +85°C	-	±4	%
Dark Current	I _D	V _R =5V, T _a =25°C	-	1	nA
		V _R =5V, T _a =70°C	-	10	nA
		V _R =5V, T _a =85°C	-	20	nA
Cut-off Frequency	f _c	R _L =50Ω, V _R =5V -3dB from 500 kHz	2.5	-	GHz
Capacitance	C _t	f=1MHz, V _R =5V	-	0.9	pF
Optical Return Loss	ORL		30	-	dB

Note 1: Optical characteristics are specified on the condition that single mode fiber is used as the optical source for testing.

Fig. 1 Spectral Response (η vs. λ)

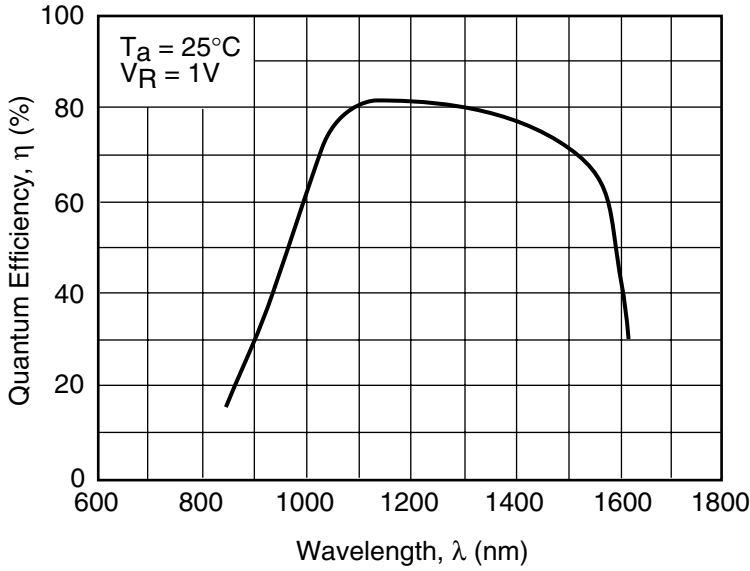


Fig. 2 Spectral Response (R vs. λ)

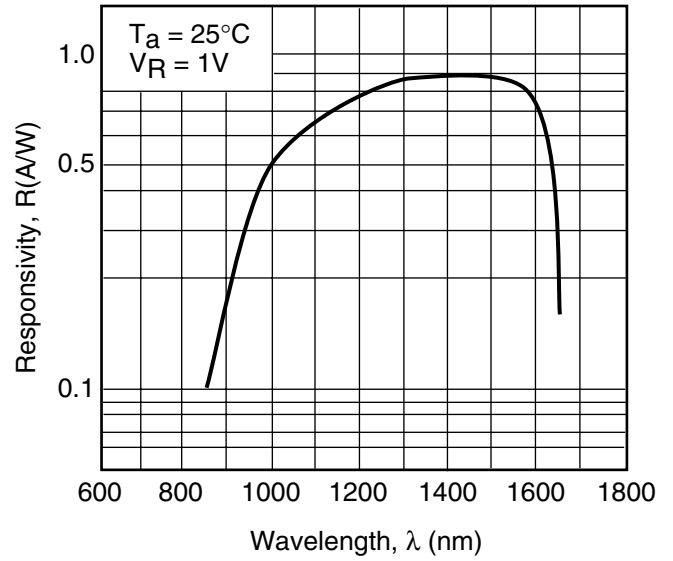


Fig. 3 Temperature Dependence of Responsivity

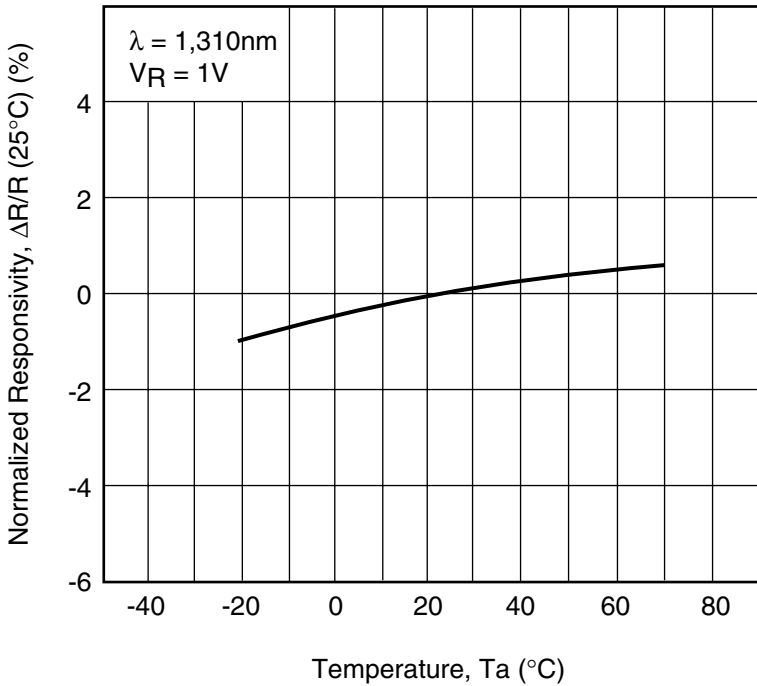


Fig. 4 Dark Current vs. Reverse Voltage

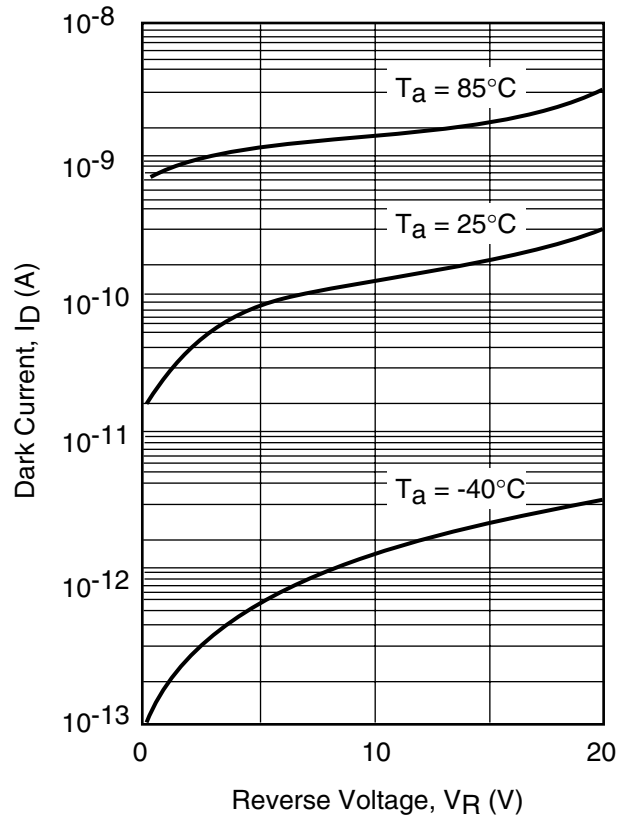


Fig. 5 Dark Current vs. Temperature

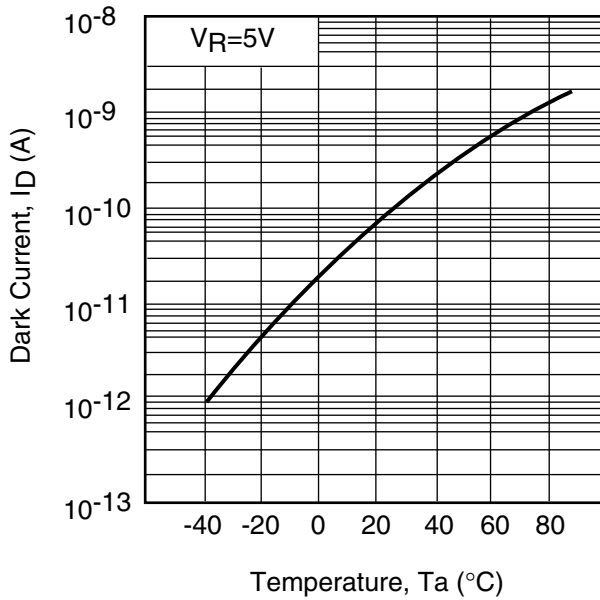


Fig. 6 Frequency Response

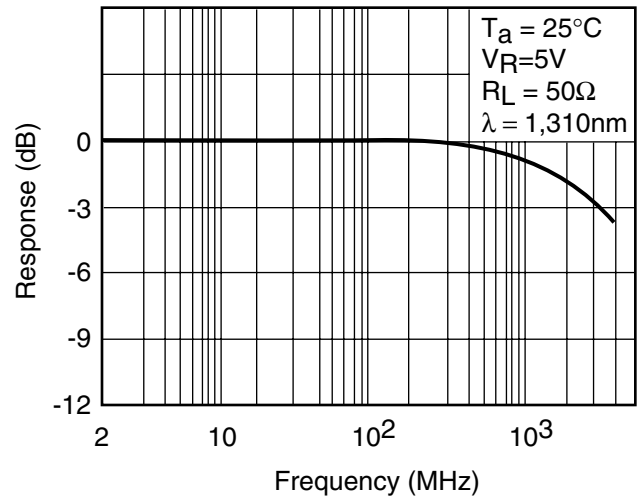
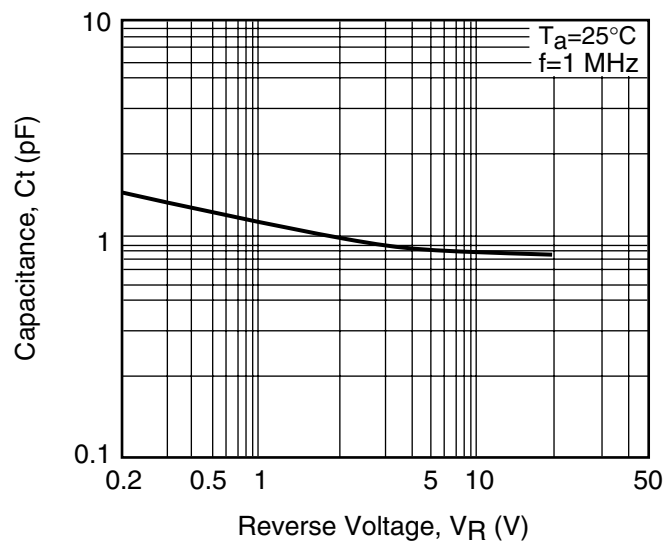


Fig. 7 Capacitance vs. Reverse Voltage



For further information please contact:

Eudyna Devices USA Inc.

2355 Zanker Rd.
San Jose, CA 95131-1138, U.S.A.
TEL: (408) 232-9500
FAX: (408) 428-9111
www.us.eudyna.com

Eudyna Devices Europe Ltd.

Network House
Norreys Drive
Maidenhead, Berkshire SL6 4FJ
United Kingdom
TEL: +44 (0) 1628 504800
FAX: +44 (0) 1628 504888

Eudyna Devices Asia Pte Ltd.

Hong Kong Branch
Rm. 1101, Ocean Centre, 5 Canton Rd.
Tsim Sha Tsui, Kowloon, Hong Kong
TEL: +852-2377-0227
FAX: +852-2377-3921

Eudyna Devices Inc.

Sales Division
1, Kanai-cho, Sakae-ku
Yokohama, 244-0845, Japan
TEL: +81-45-853-8156
FAX: +81-45-853-8170

CAUTION

Eudyna Devices Inc. products contain **gallium arsenide (GaAs)** which can be hazardous to the human body and the environment. For safety, observe the following procedures:

- Do not put this product into the mouth.
- Do not alter the form of this product into a gas, powder, or liquid through burning, crushing, or chemical processing as these by-products are dangerous to the human body if inhaled, ingested, or swallowed.
- Observe government laws and company regulations when discarding this product. This product must be discarded in accordance with methods specified by applicable hazardous waste procedures.

Eudyna Devices Inc. reserves the right to change products and specifications without notice. The information does not convey any license under rights of Eudyna Devices Inc. or others.

© 2004 Eudyna Devices USA Inc.
Printed in U.S.A.