

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

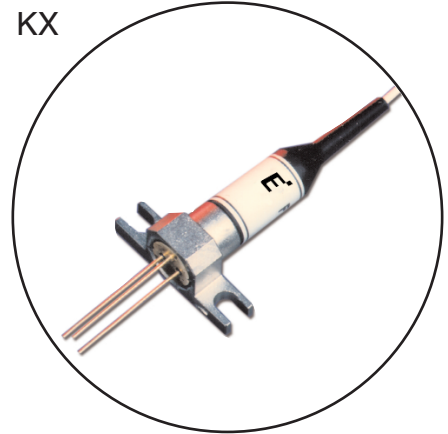
APPLICATIONS

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

DESCRIPTION

The FID3Z2KX/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 guardring 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



ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$, Unless otherwise specified)

Parameter	Symbol	Limits		Unit
		Min.	Max.	
Storage Temperature	T_{stg}	-40	+90	$^\circ\text{C}$
Operating Case Temperature	T_{op}	-40	+85	$^\circ\text{C}$
PIN Reverse Voltage	V_R	0	20	V
PIN Forward Current	I_F	-	5	mA
PIN Reverse Current	I_R	-	2.0	mA

OPTICAL & ELECTRICAL CHARACTERISTICS

($T_a=-40^\circ\text{C}$ to $+85^\circ\text{C}$, $\lambda=1,300$ and $1,500\text{nm}$, Unless otherwise specified)

Parameter	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
PIN Responsivity	R	$V_R=1\text{V}$, 1,300nm 1,500nm	0.80	0.89	-	A/W
			0.85	0.93	-	
Variation of Responsivity	ΔR	$V_R=1\text{V}$, -20 to $+70^\circ\text{C}$ -40 to $+85^\circ\text{C}$	-	-	± 3	%
			-	-	± 4	
Dark Current	I_D	$V_R=5\text{V}$, $T_a=25^\circ\text{C}$ $T_a=70^\circ\text{C}$ $T_a=85^\circ\text{C}$	-	0.1	2	nA
			-	-	10	
			-	-	20	
Cut-off Frequency	f_c	$V_R=5\text{V}$, $R_L=50\Omega$, -3dB from 500kHz	1.5	2.0	-	GHz
Capacitance	C_t	$f=1\text{MHz}$, $V_R=5\text{V}$,	-	0.9	1.3	pF
Optical Return Loss	ORL		30	-	-	dB

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

Fig. 1 Spectral Response (η vs. λ)

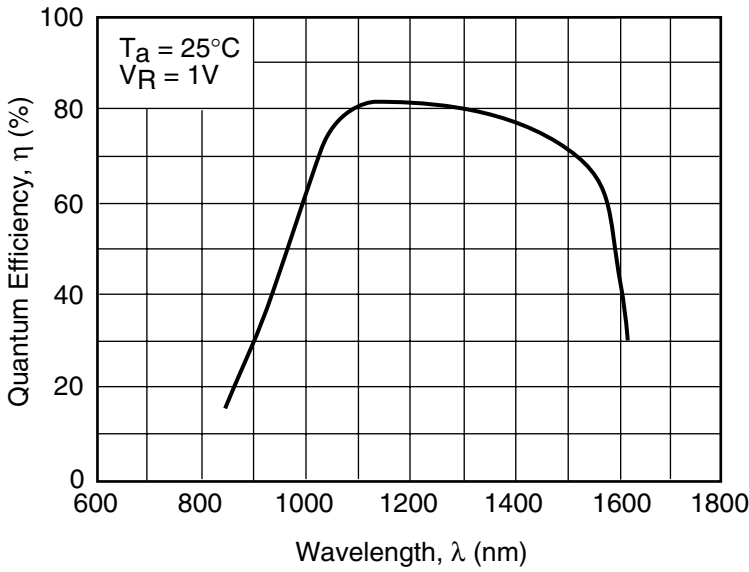


Fig. 2 Spectral Response (R vs. λ)

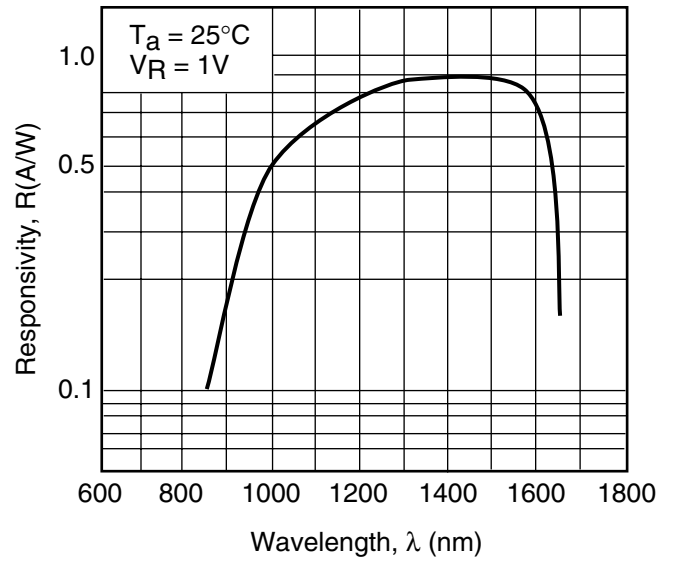


Fig. 3 Temperature Dependence of Responsivity

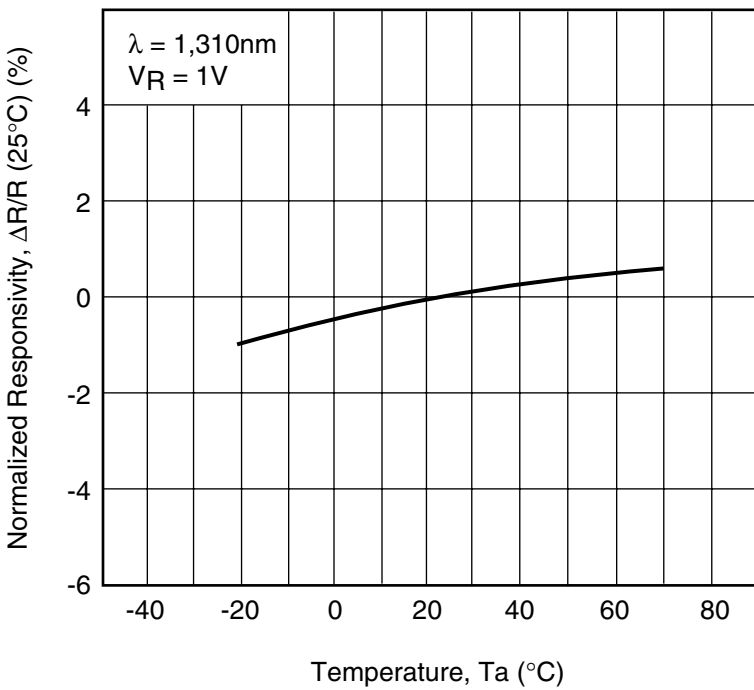


Fig. 4 Dark Current vs. Reverse Voltage

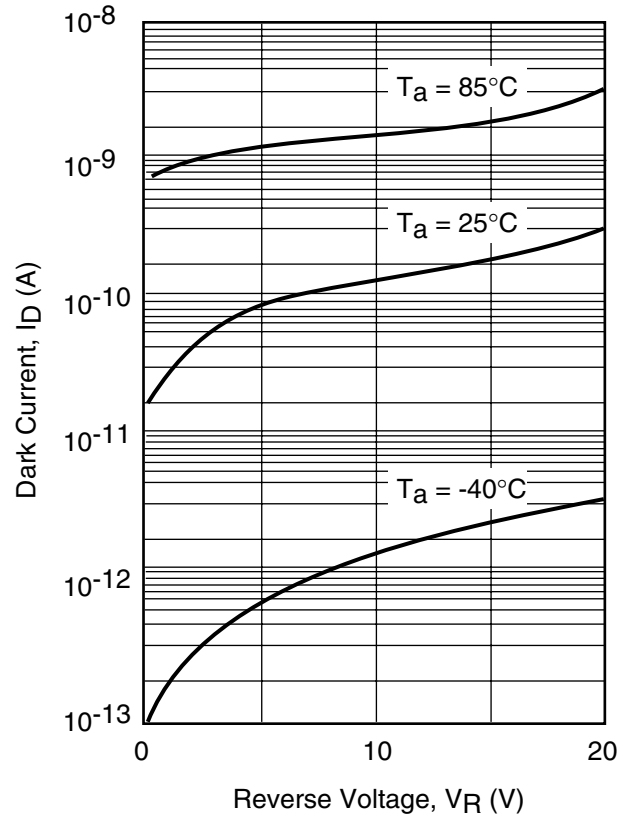


Fig. 5 Dark Current vs. Temperature

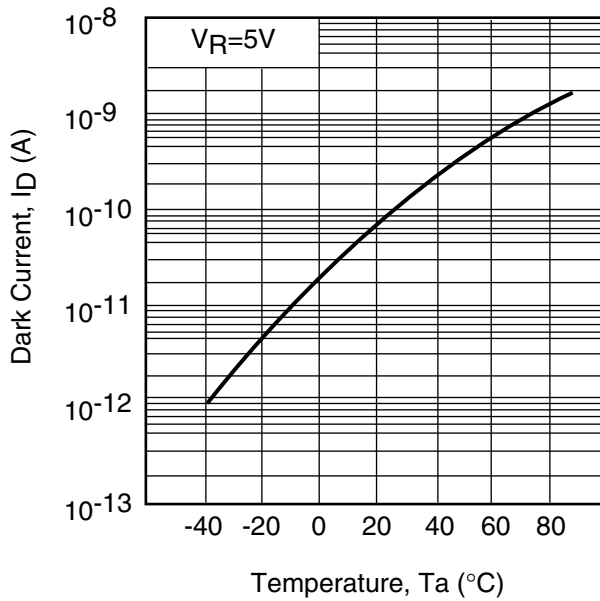


Fig. 6 Frequency Response

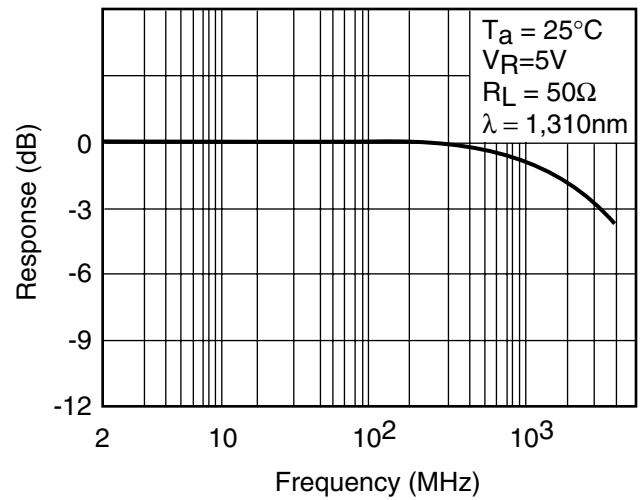
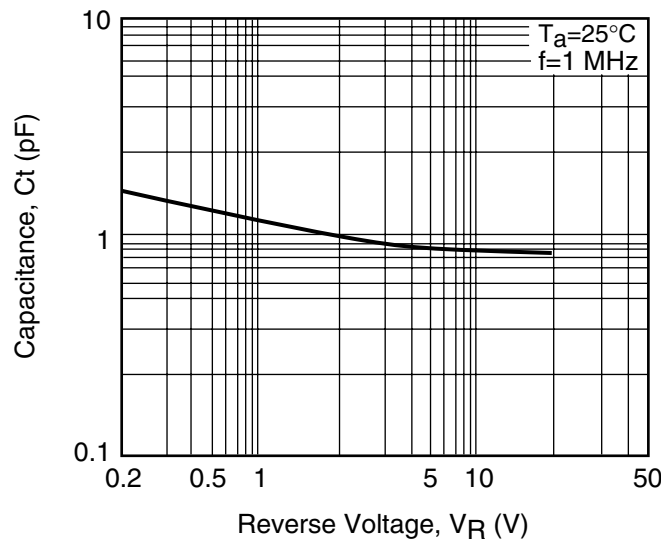
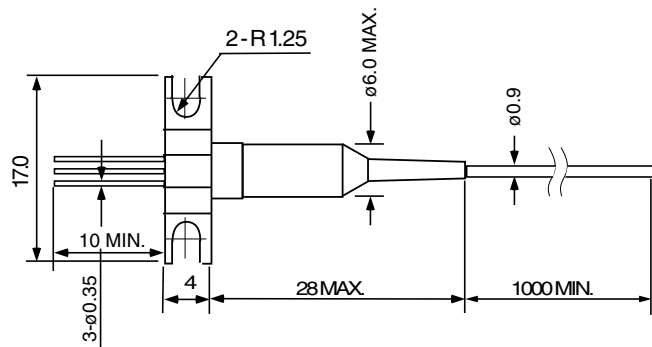
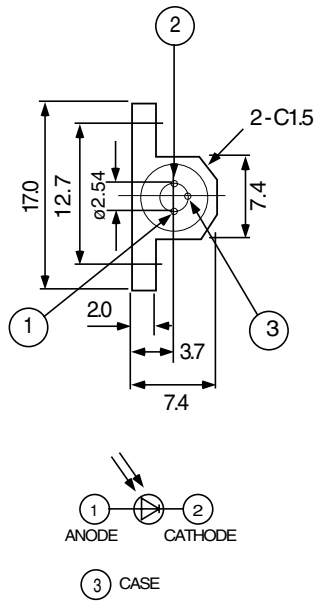


Fig. 7 Capacitance vs. Reverse Voltage



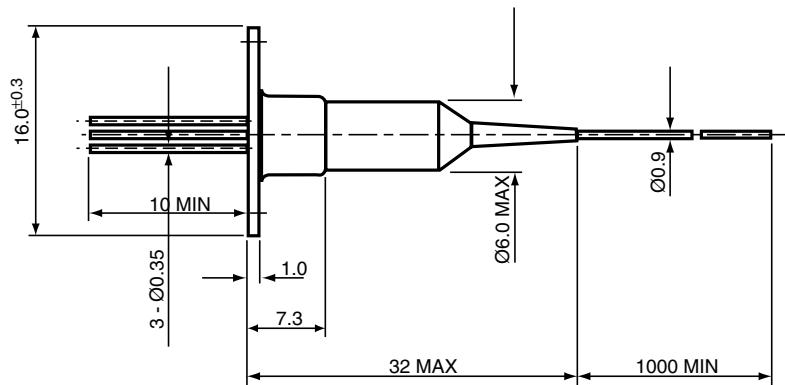
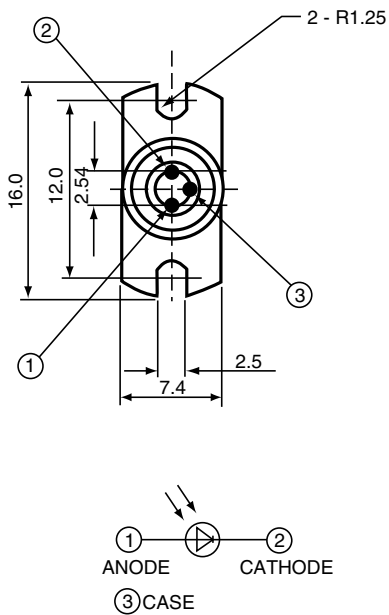
“KX” PACKAGE

UNIT: mm



“LX” PACKAGE

UNIT: mm



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.