

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.

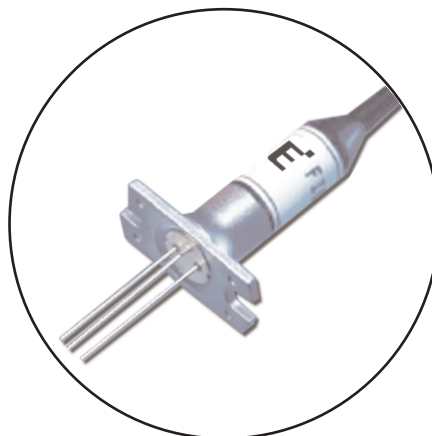
DESCRIPTION

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 ($T_a=25^\circ\text{C}$)

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

OPTICAL & ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Conditions	Limits		Unit
			Min.	Max.	
Responsivity	R	$V_R=1\text{V}$, 1300nm	0.75	-	A/W
		$V_R=1\text{V}$, 1500nm	0.8	-	A/W
Variation of Responsivity	ΔR	$V_R=1\text{V}$, -20 to +70 $^\circ\text{C}$	-	± 3	%
		$V_R=1\text{V}$, -40 to +85 $^\circ\text{C}$	-	± 4	%
Dark Current	I_D	$V_R=5\text{V}$, $T_a=25^\circ\text{C}$	-	1	nA
		$V_R=5\text{V}$, $T_a=70^\circ\text{C}$	-	10	nA
		$V_R=5\text{V}$, $T_a=85^\circ\text{C}$	-	20	nA
Cut-off Frequency	f_c	$R_L=50\Omega$, $V_R=5\text{V}$ -3dB from 500 kHz	2.5	-	GHz
Capacitance	C_t	$f=1\text{MHz}$, $V_R=5\text{V}$	-	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)

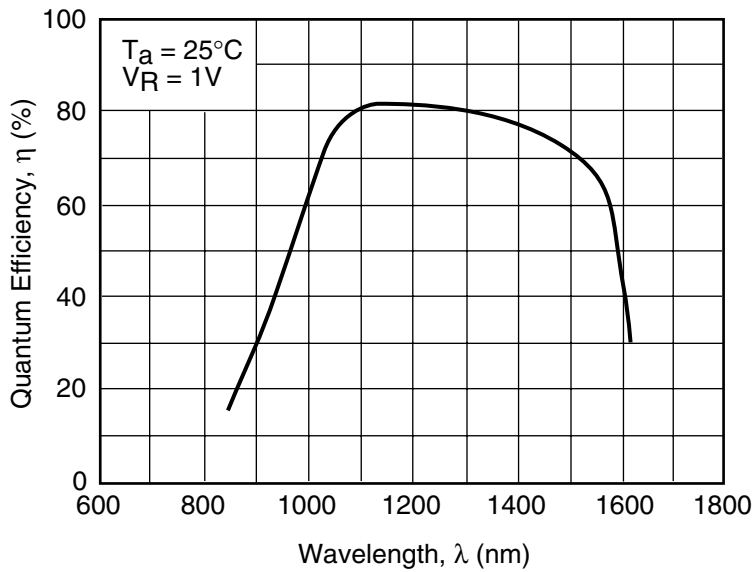


Fig. 2 Spectral Response (R vs. λ)

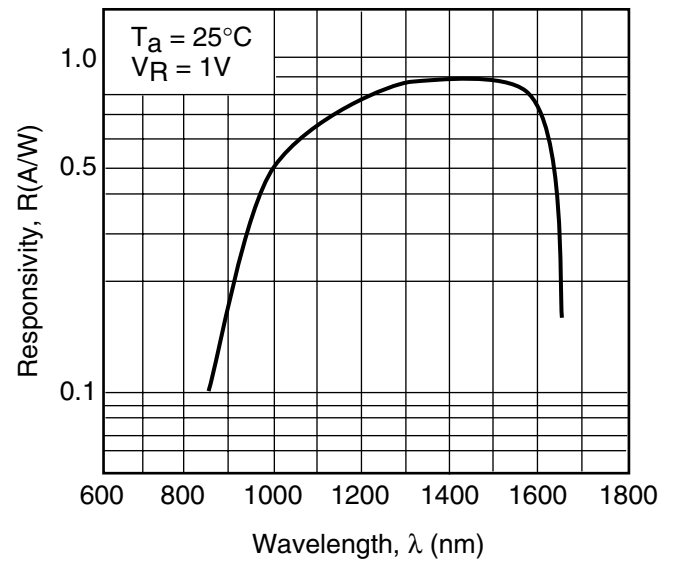


Fig. 3 Temperature Dependence of Responsivity

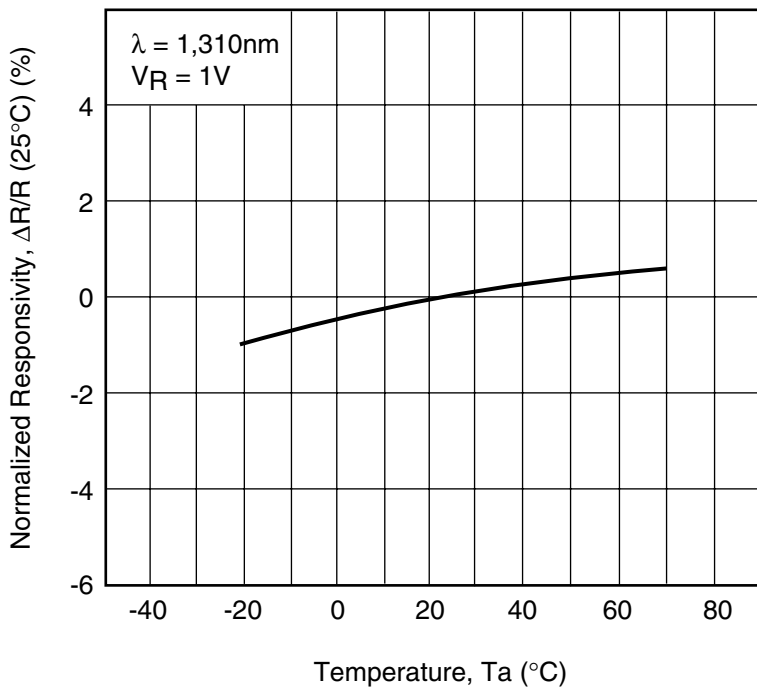


Fig. 4 Dark Current vs. Reverse Voltage

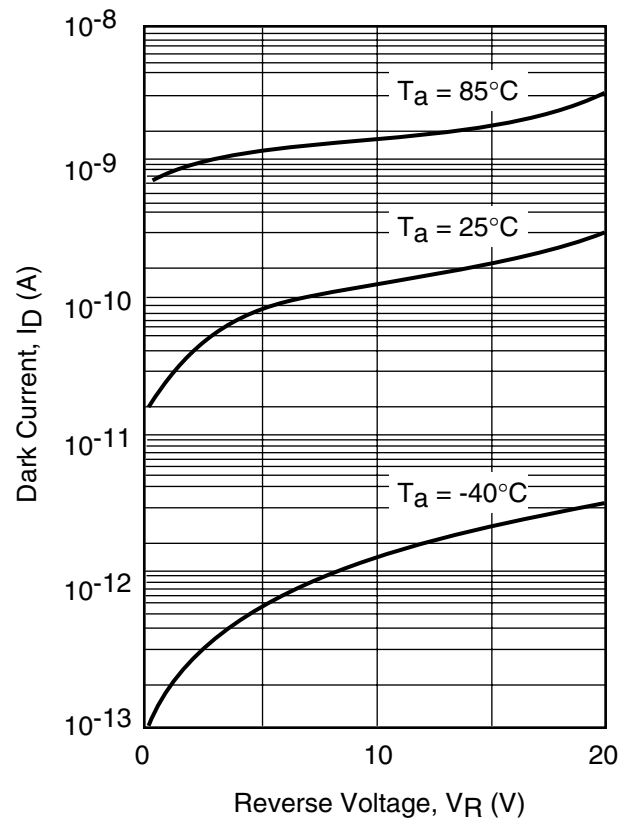


Fig. 5 Dark Current vs. Temperature

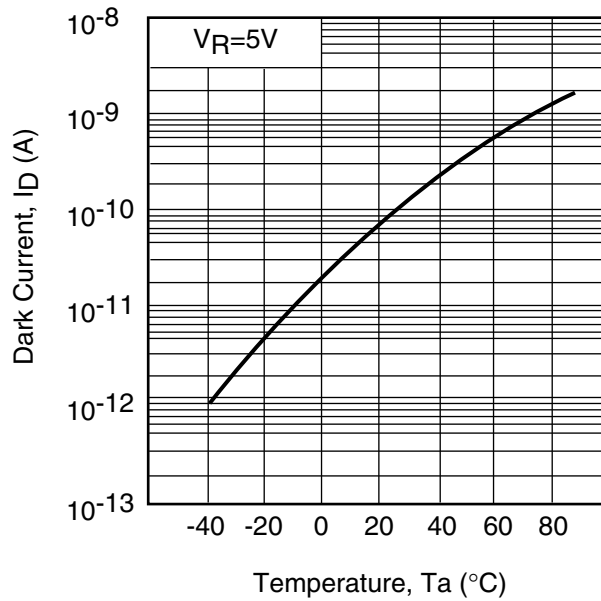


Fig. 6 Frequency Response

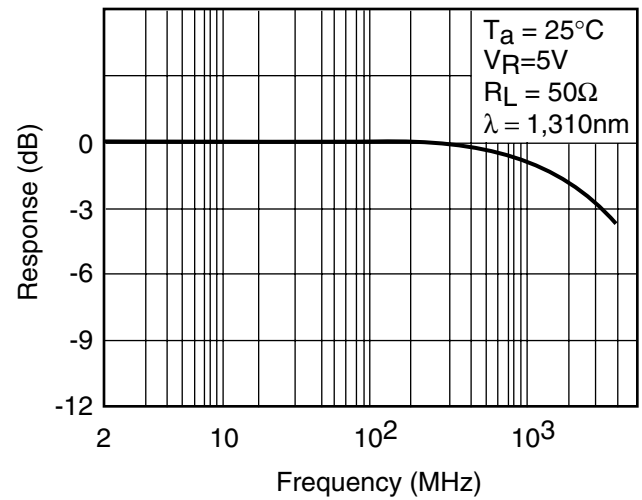
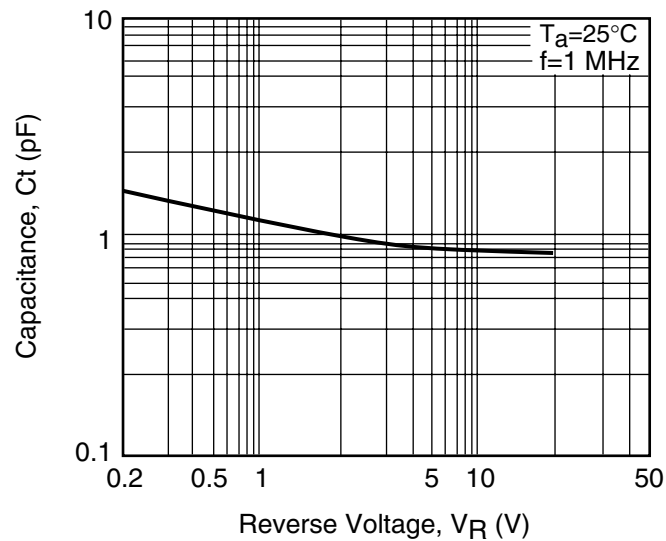
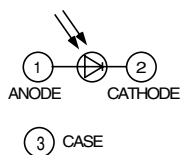
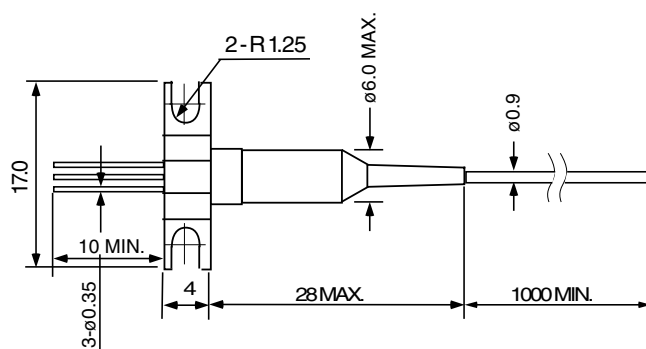
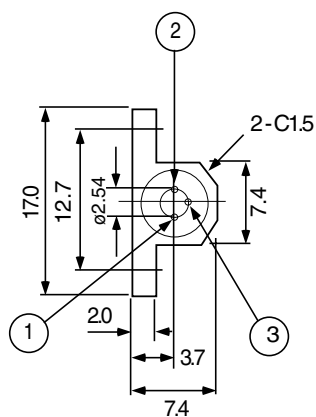


Fig. 7 Capacitance vs. Reverse Voltage

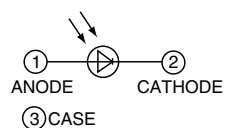
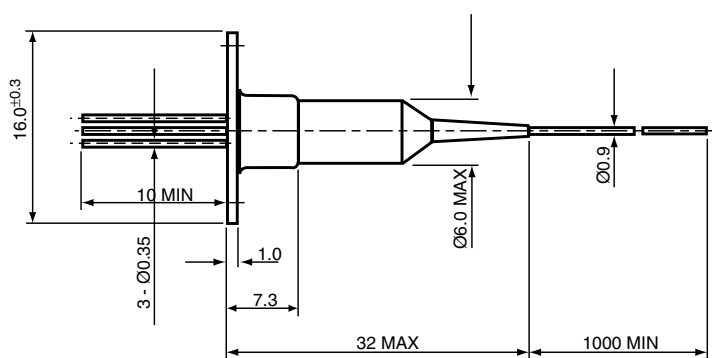
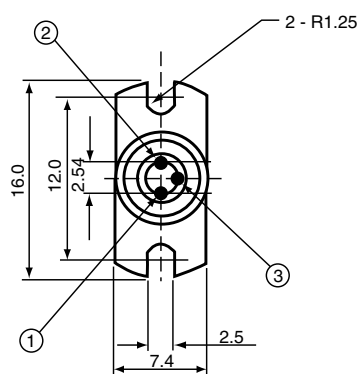


“KX” PACKAGE



“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

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