

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

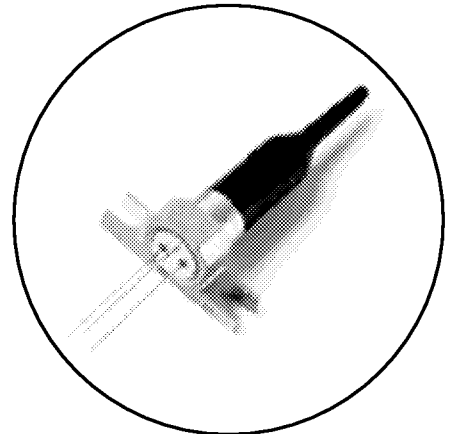
APPLICATIONS

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

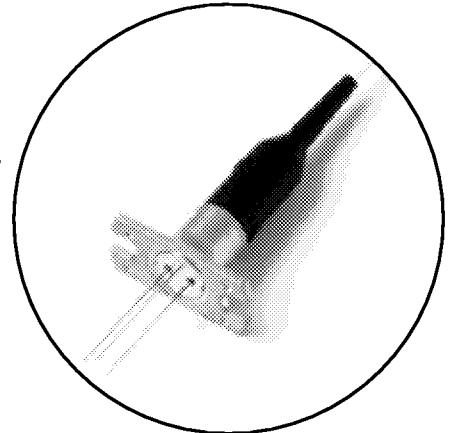
DESCRIPTION

The FID3Z1KX/LX is a InGaAs 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



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	mA
Reverse Voltage	V _R	20	V

OPTICAL & ELECTRICAL CHARACTERISTICS (T_a=-40 to +85°C, λ=1,310/1,550nm unless otherwise specified)

Parameter	Symbol	Conditions	Limits		Unit
			Min.	Max.	
Responsivity	R	V _R =1V, 1300nm	0.80	-	A/W
		V _R =1V, 1500nm	0.85	-	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)

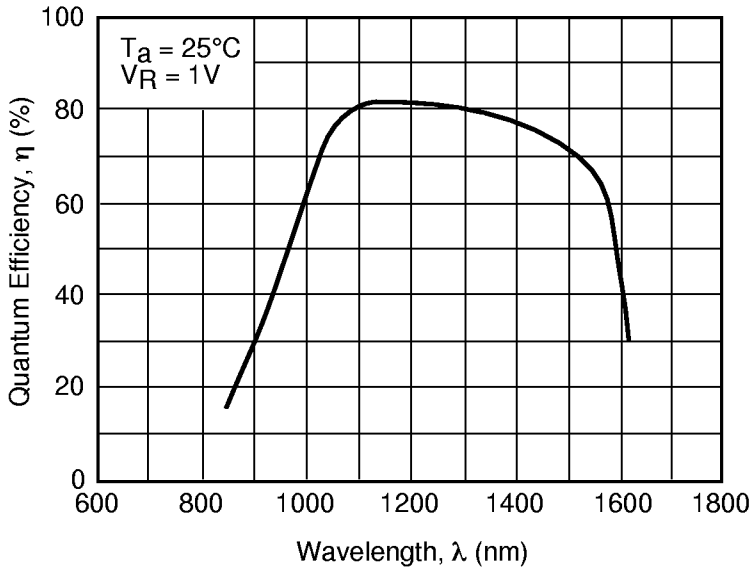


Fig. 2 Spectral Response (R vs. λ)

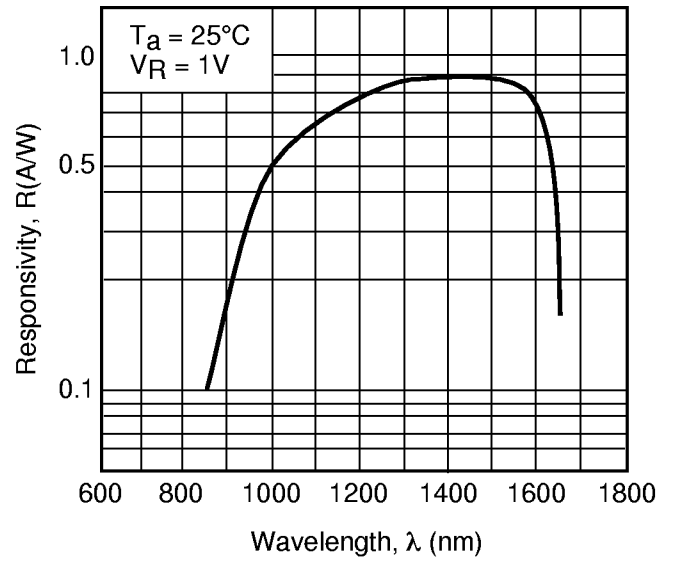


Fig. 3 Temperature Dependence of Responsivity

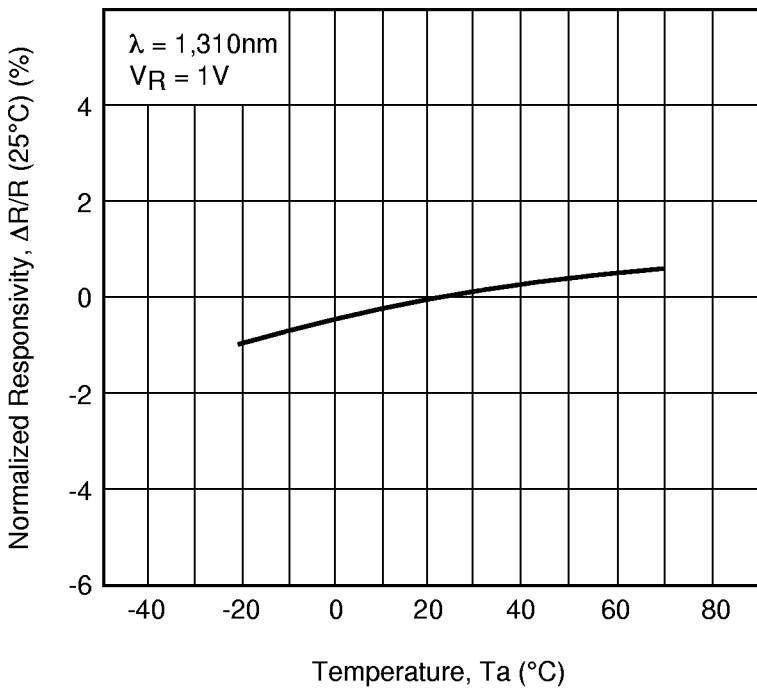


Fig. 4 Dark Current vs. Reverse Voltage

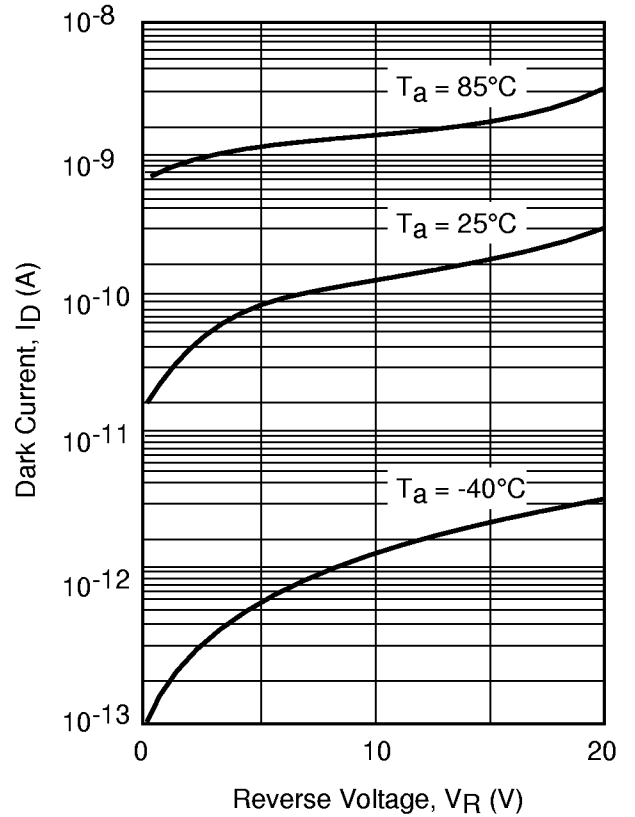


Fig. 5 Dark Current vs. Temperature

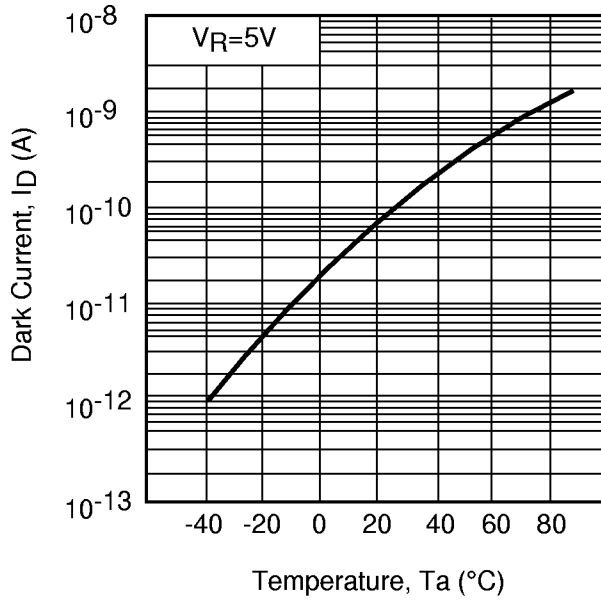


Fig. 6 Frequency Response

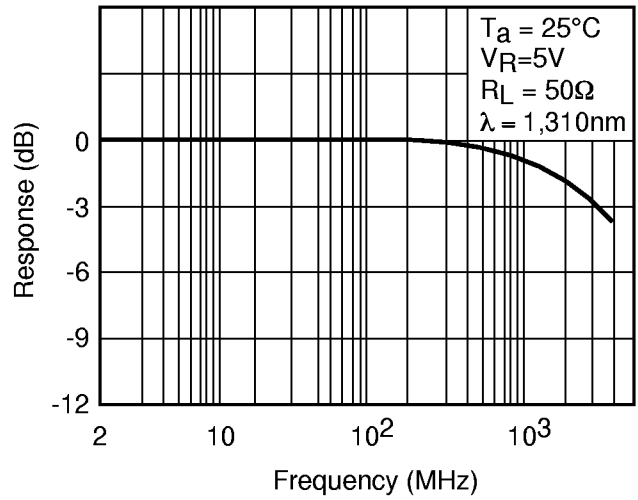
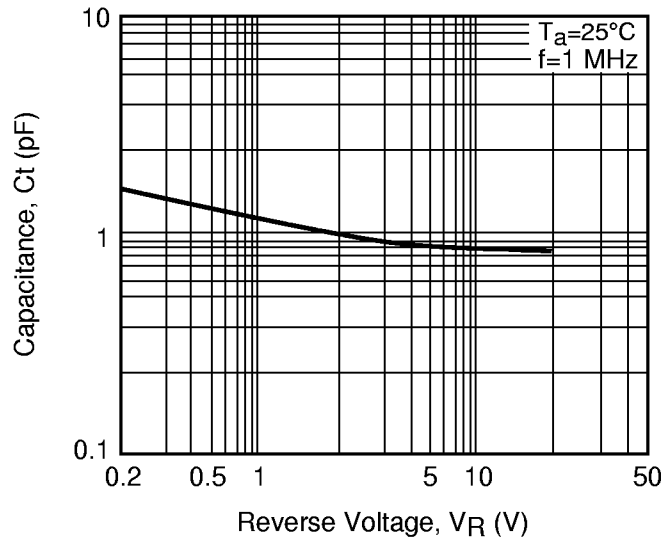
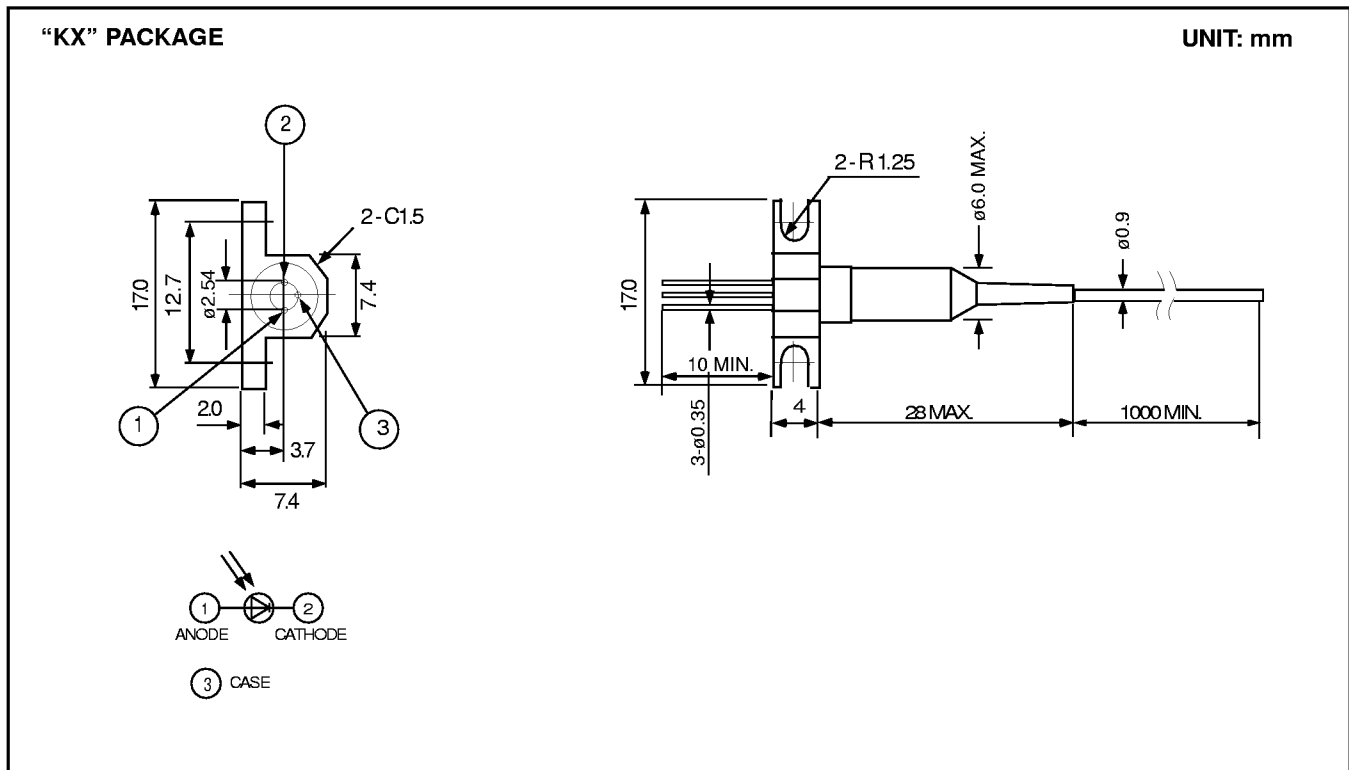
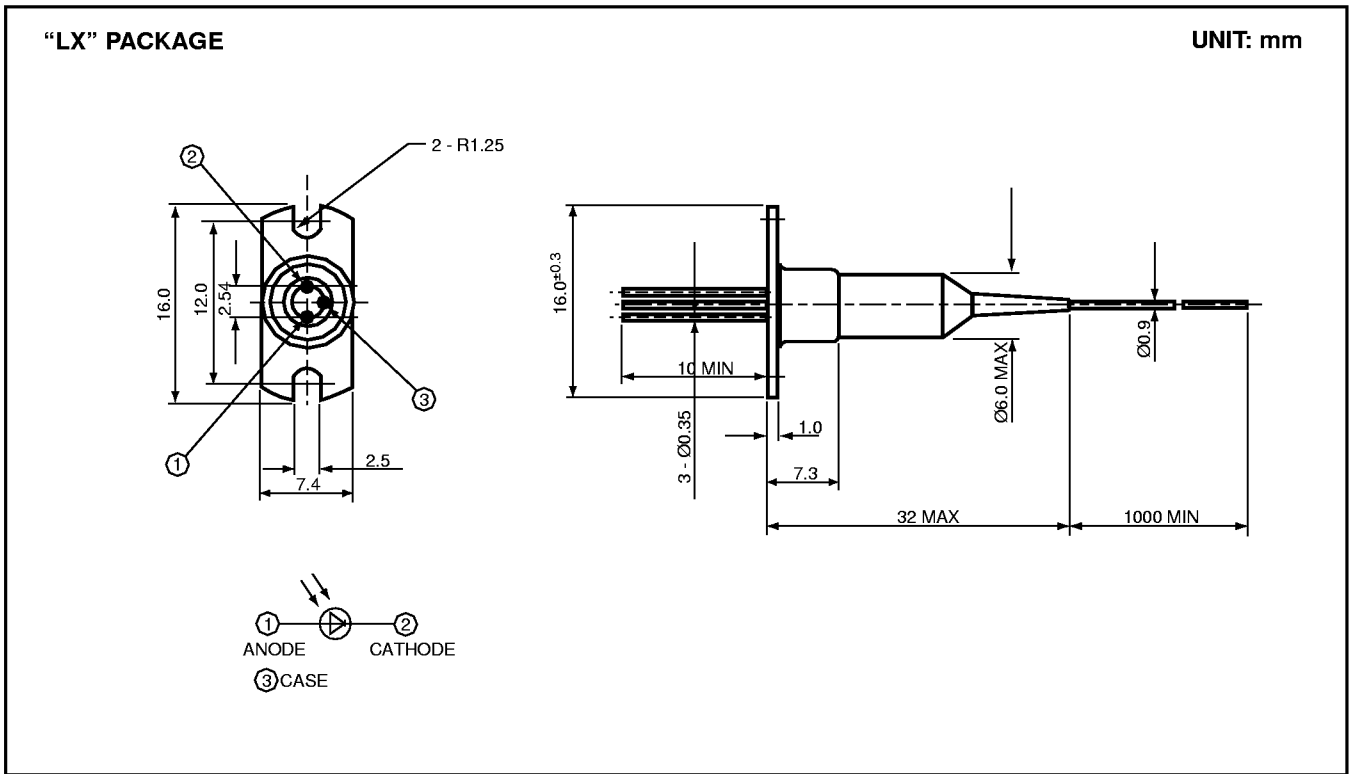


Fig. 7 Capacitance vs. Reverse Voltage





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