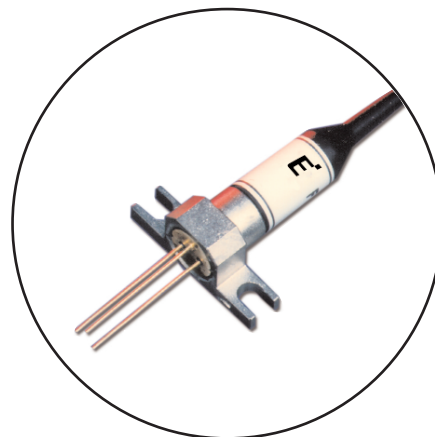


FEATURES

- PIN photodiode for CATV/Analog applications
- High Responsivity
- Wide Bandwidth
- Low Modulation Distortion
- High Optical Return Loss: >40dB
- High Frequency Response: >2.5GHz

APPLICATIONS

- Analog Transmission Systems
- AM and FM CATV systems



DESCRIPTION

The FID3S2KX is a PIN photodiode module with a single mode fiber pigtail specifically designed for multichannel analog transmission systems. The photodiode uses a planar structure to achieve low dark current, high responsivity and high reliability. The coupling optics in the package is designed for very low optical reflection. The package is hermetically sealed.

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

Parameter	Symbol	Limits		Unit
		Min.	Max.	
Storage Temperature	T_{stg}	-40	+85	$^{\circ}\text{C}$
Operating Case Temperature	T_{op}	-40	+85	$^{\circ}\text{C}$
PIN Reverse Voltage	V_R	0	20	V
PIN Forward Current	I_F	-	10	mA
PIN Reverse Current	I_R	-	5	mA

OPTICAL & ELECTRICAL CHARACTERISTICS ($T_c=25^{\circ}\text{C}$, $\lambda=1,310$ and $1,500\text{nm}$, Unless otherwise specified)

Parameter	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
PIN Responsivity	R	$V_R=1\text{V}$	0.8	0.90	-	A/W
Dark Current	I_D	$V_R=5\text{V}$	-	0.1	1.0	nA
Cut-off Frequency	f_c	$V_R=5\text{V}$, $R_L=50\Omega$, $\text{Pin}=-3\text{dBm}$, -3dB from 500kHz	1.5	2.0	-	GHz
			Note 4	2.5	-	
Capacitance	C_t	$V_R=5\text{V}$, $f=1\text{MHz}$,	-	0.8	1.0	pF
2nd Order Intermodulation Distortion	IMD2	Note 1	-	-	-65	dBc
3rd Order Intermodulation Distortion	IMD3		-	-	-80	dBc
Optical Return Loss	ORL		40	45	-	dB

Note 1: 2 Tone/2 Laser test. Modulation index=70%/ch. Total average optical power=0dBm. Frequency=244MHz and 250MHz.

Note 2: Recommended $V_R=10\text{V}$ when $\text{Pin}>0\text{dBm}$ or $f>1\text{GHz}$.

Note 3: All optical parameters are measured including the optical connector.

Note 4: Lead length (Air gap between stem base and PCB) < 2mm.

Fig. 1 Responsivity vs. Wavelength

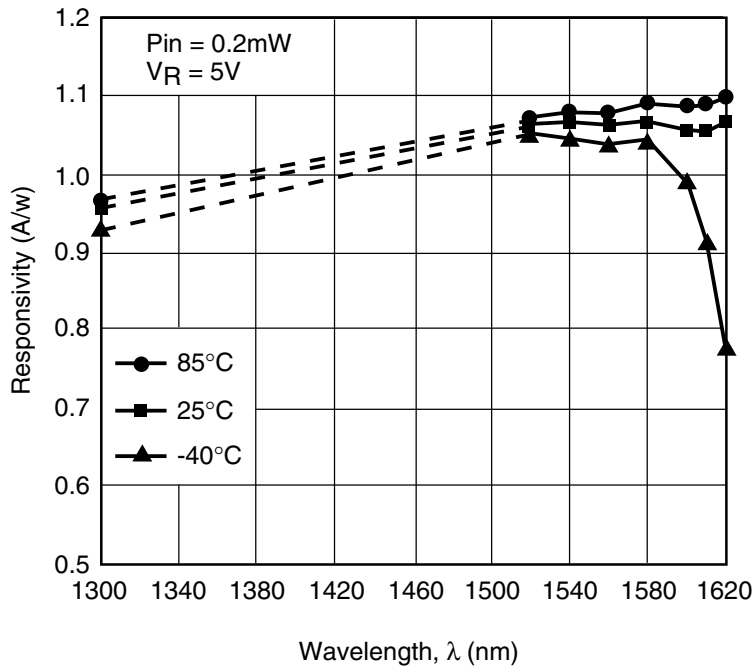


Fig. 2 Dark Current vs. Reverse Voltage

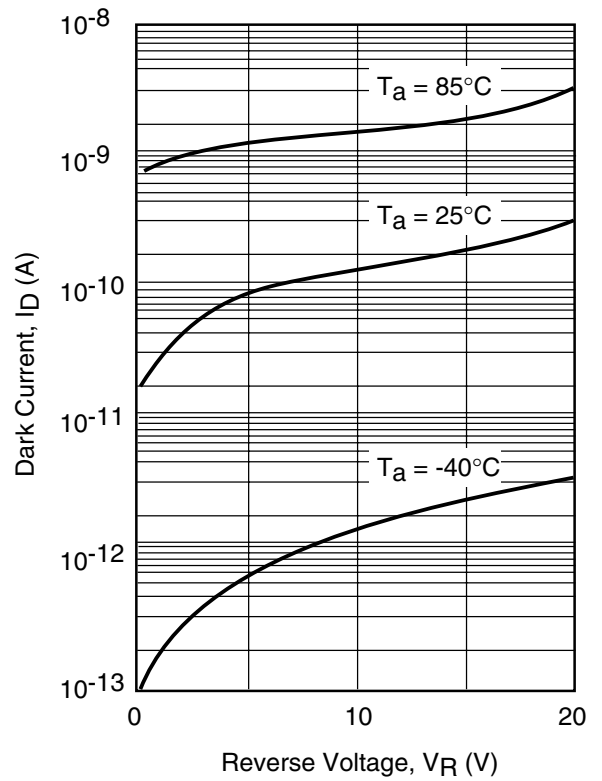


Fig. 3 Capacitance vs. Reverse Voltage

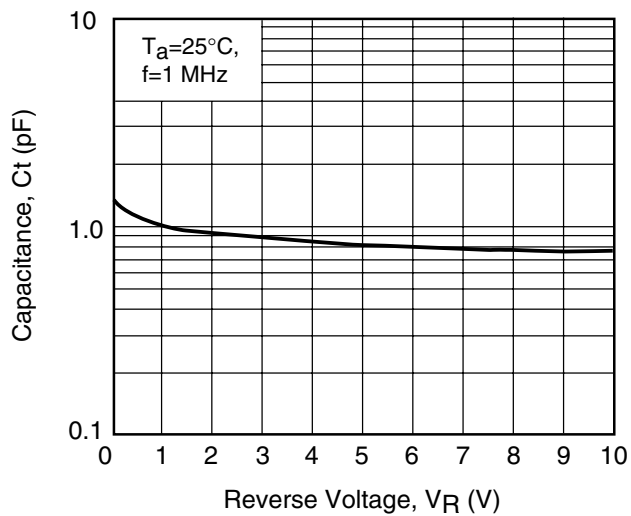
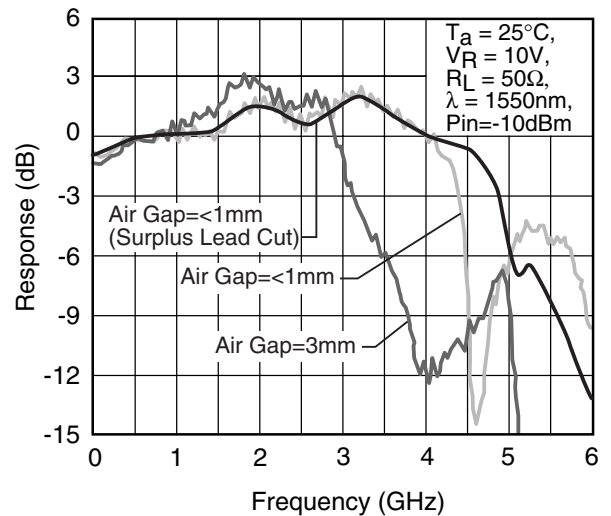
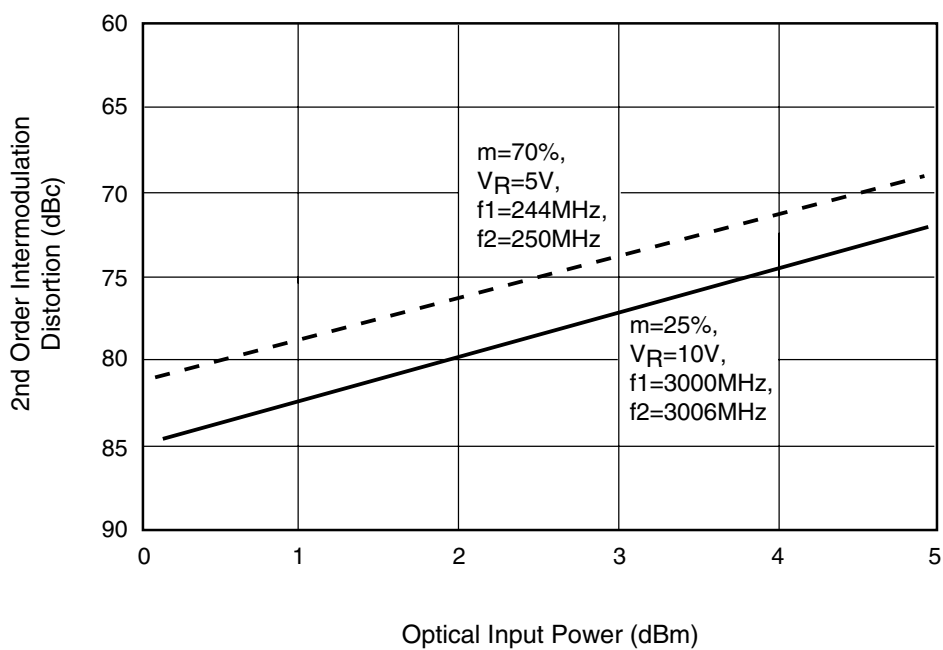


Fig. 4 Frequency Response

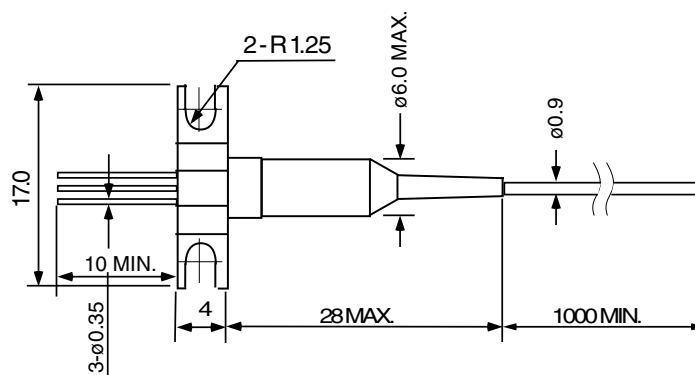
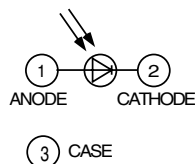
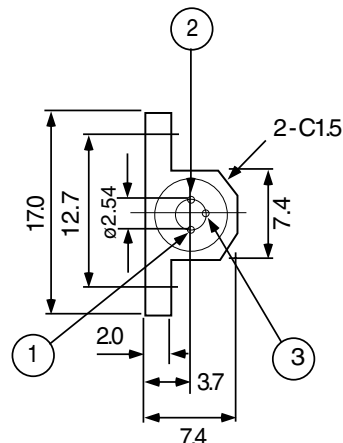


**Fig. 5 2nd Order Intermodulation
Distortion Characteristics**



“KX” PACKAGE

UNIT: mm



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