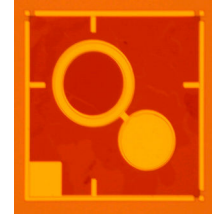


KIP-107-1

Description

KIP-107-1 is InGaAs PIN Photodiode chip with $\varnothing 75\mu\text{m}$ active diameter.

It is recommended for optical data communication with high sensitivity.



Features

- Front illuminated planar PIN-PD
- Low capacitance and low dark current
- High reliability and environmental endurance
- Wide operating wavelength range from $1.1\mu\text{m}$ to $1.6\mu\text{m}$

Applications

- Optical Data Communications for 1.25 / 2.5 Gbps
- Optical power monitoring

Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Reverse Voltage	V_R	20	V
Maximun Optical Power Input	P_{max}	30	mW
Forward Current	I_F	10	mA
Operating Temperature	T_{opr}	-40 ~ +85	$^{\circ}\text{C}$
Storage Temperature	$T_{\text{stg.}}$	-40 ~ +100	$^{\circ}\text{C}$
Die- Attach Temperature *1		300	$^{\circ}\text{C}$

*1 : Attach Temperature Time ≤ 60 seconds max

Electro-Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Active area(\varnothing)	D		75		μm	
Dark Current	I_D		0.04	0.5	nA	@ $V_R=5\text{V}$, 25°C
Responsivity	S	1.31 μm	0.85	0.90	mA/mW	@ $V_R=5\text{V}$, 25°C
		1.55 μm	0.90	0.95		
3dB Cut off frequency	$f_{h,-3\text{dB}}$	2		-	GHz	@ $V_R=5$, $R_L=50\Omega$
Capacitance	C_p		0.8	1.2	pF	@ $V_R=5\text{V}$, $f=1\text{MHz}$

* These specifications are subject to change without notice.

Physical Dimension Properties

Parameter	Symbol	Typ.	Unit
Active area(\varnothing)	D	75	μm
Chip Size	-	250x250	μm^2
bonding Pad Size (\varnothing)	-	80	μm
Chip Thickness	t	120	μm

Ordering information

KIP	Data Rate	Active area	Carrier type
KODENSHI InGaAs PIN Photodiode Chip	M: Monitoring	05: $\varnothing 50 \mu\text{m}$	1: chips in gel pack
	1: 1.5 Gbps	07: $\varnothing 75 \mu\text{m}$	
	2: 2.5 Gbps	25: $\square 250 \text{sq } \mu\text{m}$	2: chips on submounter
			3: chips on blue tape