

## KIP-MxM

**Description**

**KIP-MxM-1** is InGaAs PIN Photodiode chip with BIG size active diameter(Ø1.0mm,Ø2.0mm,Ø3.0mm).

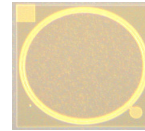
It is recommended for Laser diode life test and optical power monitoring.

**Features**

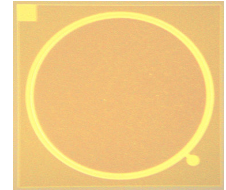
- Front illuminated planar PIN-PD
- High reliability and environmental endurance
- Wide spectral response range from 0.9  $\mu\text{m}$  to 1.6  $\mu\text{m}$



KIP-M1M



KIP-M2M



KIP-M3M

**Applications**

- Laser diode power monitoring
- Laser diode life test

**Absolute Maximum Ratings**

| Parameter                | Symbol              | Ratings    | Unit |
|--------------------------|---------------------|------------|------|
| Reverse Voltage          | $V_{R\text{ max.}}$ | 10         | V    |
| Operating Temperature    | $T_{\text{opr}}$    | -40 ~ +85  | °C   |
| Storage Temperature      | $T_{\text{stg.}}$   | -40 ~ +100 | °C   |
| Soldering Temperature *1 | $T_{\text{sol.}}$   | 260        | °C   |

\*1 : Soldering Time  $\leq 10$  seconds (At a distance of 1 mm from the package).

**Electro-Optical Characteristics**

| Parameter             | Symbol             | Unit | KIP - M1M - 1 |      |      | KIP - M2M - 1 |      |      | KIP - M3M - 1 |      |      | Condition                    |
|-----------------------|--------------------|------|---------------|------|------|---------------|------|------|---------------|------|------|------------------------------|
|                       |                    |      | Min.          | Typ. | Max. | Min.          | Typ. | Max. | Min.          | Typ. | Max. |                              |
| Dark Current          | $I_D$              | nA   |               | 1.0  | 5.0  |               | 2.0  | 10.0 |               | 10.0 | 50.0 | @ $V_R=5V$ , 25°C            |
| Responsivity          | 1.31 $\mu\text{m}$ | S    | mA/mW         | 0.85 |      | 0.85          |      |      | 0.85          |      |      | @ $V_R=5V$ , 25°C            |
|                       | 1.55 $\mu\text{m}$ |      |               | 0.90 |      | 0.90          |      |      | 0.90          |      |      |                              |
| 3dB Cut off frequency | $f_C$              | MHz  | 18            | 35   | -    | 4             | 8    | -    | 2             | 4    | -    | @ $V_R=5V$ , $R_L=50\Omega$  |
| Terminal Capacitance  | $C_T$              | pF   |               | 90   | 150  |               | 250  | 500  |               | 550  | 1000 | @ $V_R=5V$ , $f=1\text{MHz}$ |

\* These specifications are subject to change without notice.

**Physical Dimension Properties**

| Parameter          | Symbol | KIP - M1M - 1 | KIP - M2M - 1 | KIP - M3M - 1 | Unit |
|--------------------|--------|---------------|---------------|---------------|------|
|                    |        | Typ.          | Typ.          | Typ.          |      |
| Active area        | Ø      | 1.0           | 2.0           | 3.0           | mm   |
| Chip out dimension | Sq     | 1.4 x 1.4     | 2.4 x 2.4     | 3.6 x 3.6     | mm²  |
| bonding Pad Size   | Ø      | 100           |               |               | µm   |
| Chip Thickness     | t      | 150           |               |               | µm   |

**Ordering information**

| KIP                                          | Data Rate     | Active area | Carrier type           |
|----------------------------------------------|---------------|-------------|------------------------|
| KODENSHI<br>InGaAs<br>PIN Photodiode<br>Chip | M: Monitoring | 1M: Ø1.0 mm | 1: chips in gel pack   |
|                                              |               | 2M: Ø2.0 mm |                        |
|                                              |               | 3M: Ø3.0 mm | 2: chips on submounter |
|                                              |               |             | 3: chips on blue tape  |
|                                              |               |             |                        |

The engineering spec can be revised without any previous notice.

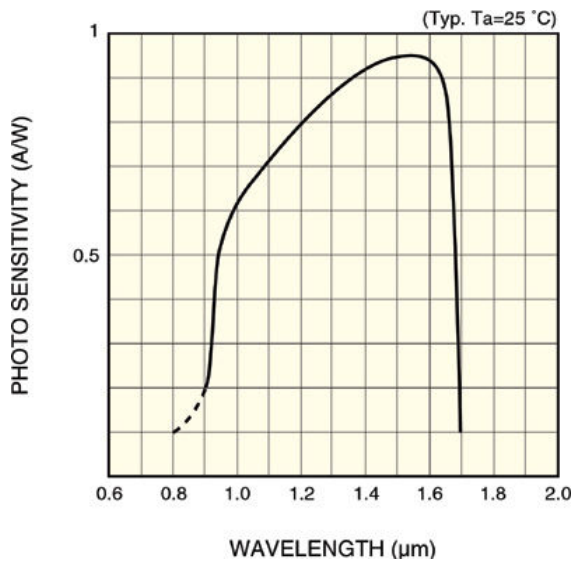
When customer's applying, please request us a revised specification before submitting the specification to the customers.

For more information on other parts available, please visit our website: [www.kodenshi.co.kr](http://www.kodenshi.co.kr)

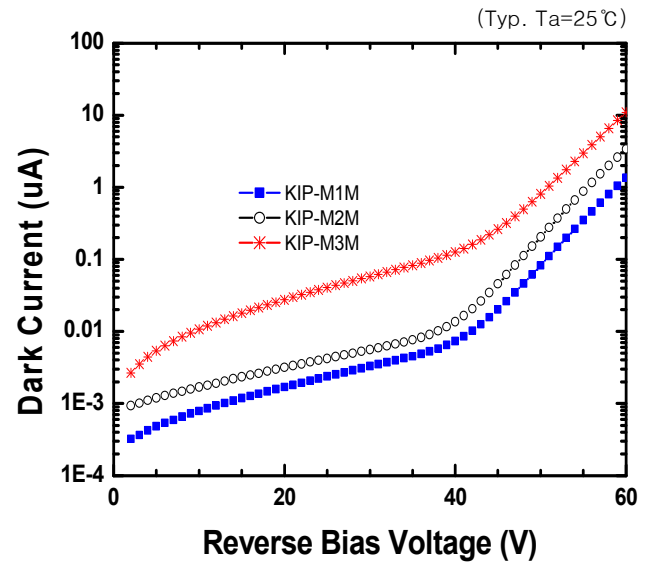
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## KIP-MxM

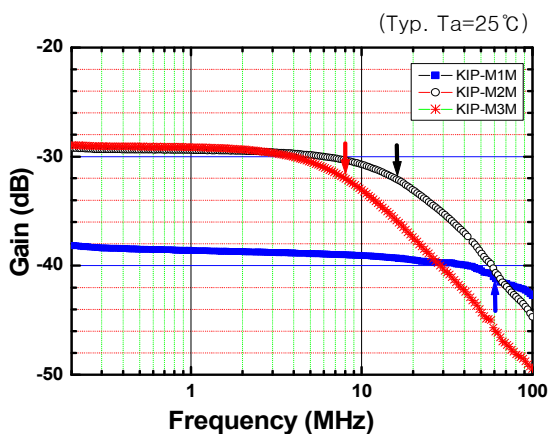
## ■ Spectral response range



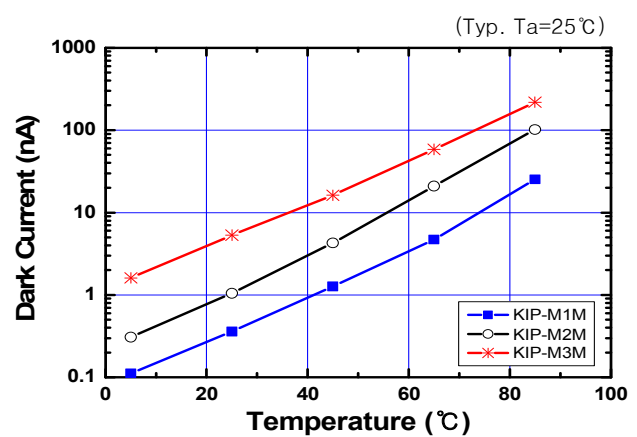
## ■ Dark current vs Reverse voltage



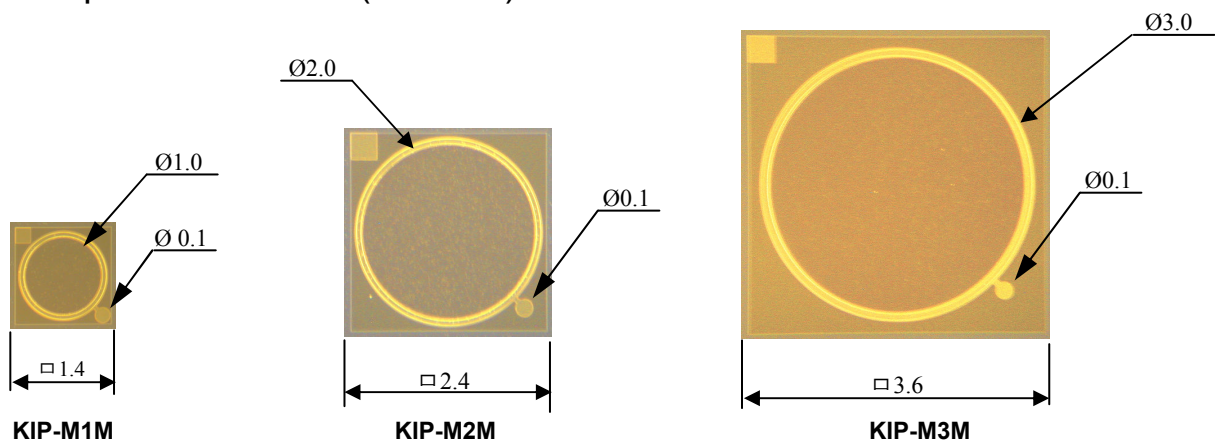
## ■ -3dB Cutoff Frequency



## ■ Dark Current vs Operating Temperature



## ■ Chip out dimension (unit:mm)



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