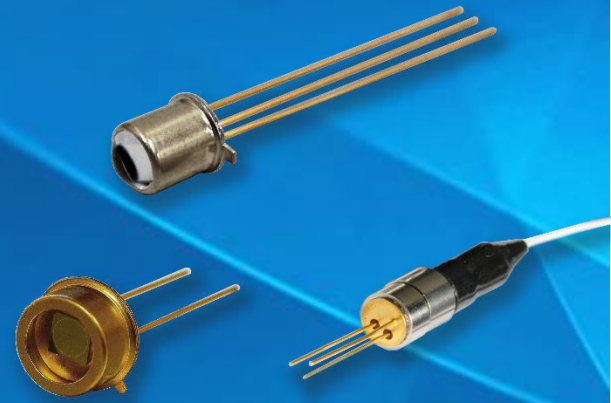


# Photodetectors

Si PIN PD / DP0411-XXX



## GENERAL DESCRIPTION

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DP0411 series Si PIN photodiodes cover the spectral range from 400nm to 1100nm wavelengths and feature high responsivity, low dark current and low capacitance. The standard sensitive areas are  $\varnothing 500\mu\text{m}$ ,  $\varnothing 1\text{mm}$ ,  $\varnothing 2\text{mm}$ ,  $\varnothing 4\text{mm}$ ,  $\varnothing 5\text{mm}$ ,  $\varnothing 8\text{mm}$  respectively. The devices are available in metal TO packages, fiber pigtail or receptacle packages to accommodate various applications. More custom sensitive areas, shapes or package styles could be provided on request.

## FEATURES

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- High sensitivity in visible to near infrared range
- Low dark current
- TO-46, TO-5, TO-8 packages
- Fiber pigtail or fiber receptacle types available on request

## SERVICE

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Optionally, we offer the complete value chain:

We provide photodiodes which are optimized to meet the specific requirements of your application.

In order to evaluate the performance of the photodetectors in the design phase we offer the rapid manufacture of prototypes and small series production.

## APPLICATIONS

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- General purpose light detection
- Laser power monitoring
- Medical analysis
- Industrial control sensors

## Specifications

### Optical & Electrical (25°C)

Parameter	Symbol	500-T046	1000-T046	2000-T05	4000-T08	5000-T08	8000-T08
Active diameter	D	500μm	1mm	2mm	4mm	5mm	8mm
Spectral response range	$\lambda$	400nm~1100nm					
Responsivity <sup>①</sup>	$R_e$	0.45A/W	0.5A/W	0.5A/W	0.5A/W	0.5A/W	0.55A/W
Rise Time <sup>②</sup>	$t_r$	5ns	6ns	8ns	15ns	15ns	25ns
Dark current <sup>③</sup>	$I_D$	2nA	3nA	5nA	12nA	40nA	60nA
Capacitance <sup>④</sup>	$C_t$	1.2pF	2pF	6pF	20pF	30pF	70pF
Operating voltage	$V_R$	0~15V					
Reverse voltage <sup>⑤</sup>		100V				80V	

①  $V_R=15V, \lambda=900nm$

②  $V_R=15V, R_L=50\Omega$

③  $V_R=15V$

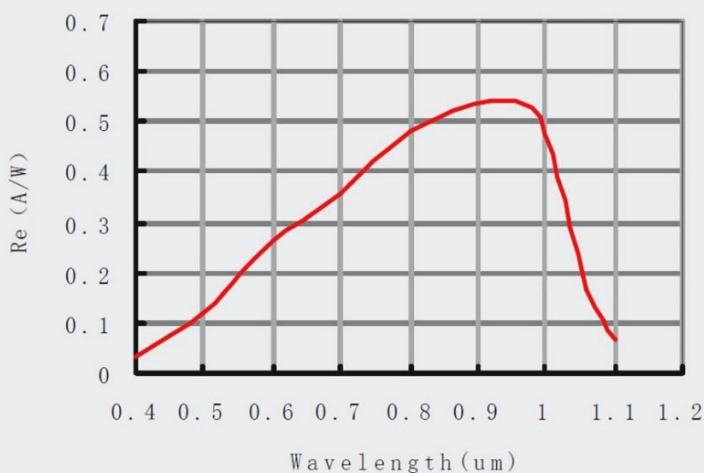
④  $f=1MHz, V_R=15V$

⑤  $I_R=10\mu A$

### Absolute Maximum

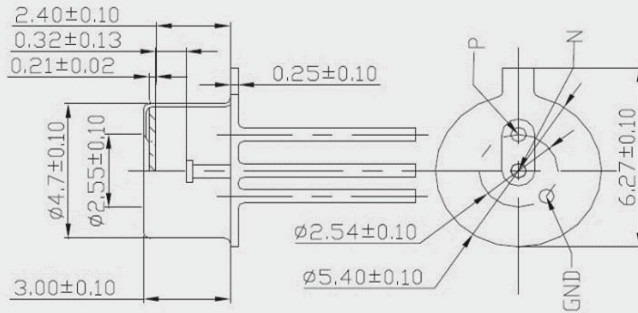
Parameter	Symbol	Minimum	Maximum	Test Conditions
Operating temperature	$T_{op}$	-40°C	85°C	No dew condensation
Storage temperature	$T_{stg}$	-40°C	85°C	No dew condensation
Input optical power	$P_{in}$		0.3W/cm <sup>2</sup>	
Lead soldering time	$T_{sol}$	-	10sec.	260°C

## Spectrum Response

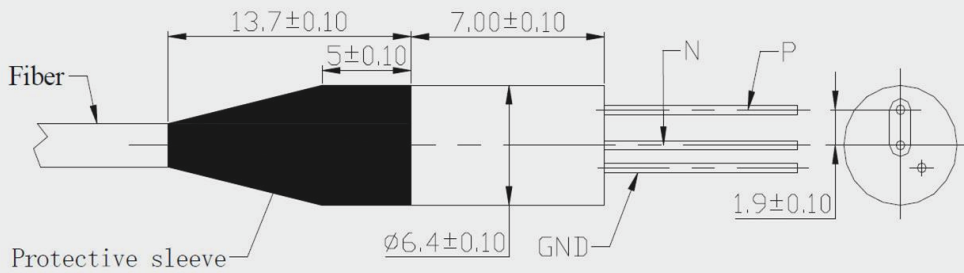


## Dimensions

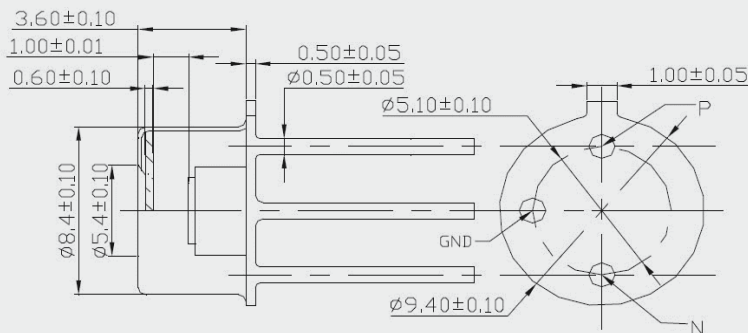
TO-46 package (unit: mm)



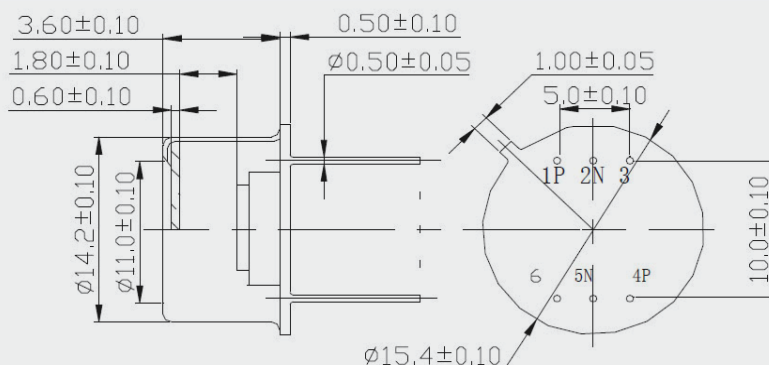
Fiber pigtail package (unit: mm)



TO-5 package (unit: mm)



TO-8 package (unit: mm)



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