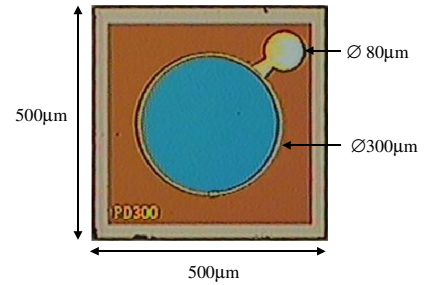


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## Photo Monitoring Diode Specification

### A. Features

- Operation at 1.0 ~ 1.65  $\mu\text{m}$
- Low dark current and high performance
- High responsivity
- Diameter from 55 to 1000  $\mu\text{m}$
- Both of CHIP and CHIP-ON-SUBMOUNT available



### B. Application

- Optical power meter
- Optical measurement system
- Medical application

### C. Absolute Maximum Ratings ( $T_c=25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Rating	Unit
Reverse voltage	$V_R$	30	V
Forward current	$I_F$	20	mA
Storage Temperature	$T_{stg}$	-40 to 85	$^\circ\text{C}$

### D-1. PD 75 Electrical and Optical Characteristics ( $T_c = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Dark current	$I_D$	$V_R=5\text{V}$		0.2	1	nA
Capacitance	$C_p$	$V_R=5\text{V}$			1	PF
3dB Bandwidth				6		GHz
Responsivity	R	$V_R=5\text{V @ } 1550\text{nm}$	0.9	0.95		A/W
		$V_R=5\text{V @ } 1310\text{nm}$	0.85	0.9		
Operating range	$\lambda$		1.0		1.65	$\mu\text{m}$
Light receiving area	$D_{Active}$		75			$\mu\text{m}$
Chip size	A		350x350			$\mu\text{m}^2$
Chip height	H		180+/-10			$\mu\text{m}$
Bonding pad diameter	$D_{Pad}$		50			$\mu\text{m}$

### D-2. PD 300 Electrical and Optical Characteristics (T<sub>c</sub> = 25 °C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Dark current	I <sub>D</sub>	V <sub>R</sub> =5V		0.5	5	nA
Capacitance	C <sub>p</sub>	V <sub>R</sub> =5V			10	PF
3dB Bandwidth						GHz
Responsivity	R	V <sub>R</sub> =5V @ 1550nm	0.9	0.95		A/W
		V <sub>R</sub> =5V @ 1310nm	0.85	0.9		
Operating range	λ		1.0		1.65	μm
Light receiving area	D <sub>Active</sub>		300			μm
Chip size	A		500x500			μm <sup>2</sup>
Chip height	H		180+/-10			μm
Bonding pad diameter	D <sub>Pad</sub>		80			μm

### D-3. PD 500 Electrical and Optical Characteristics (T<sub>c</sub> = 25 °C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Dark current	I <sub>D</sub>	V <sub>R</sub> =5V		1	5	nA
Capacitance	C <sub>p</sub>	V <sub>R</sub> =5V			20	PF
Responsivity	R	V <sub>R</sub> =5V @ 1550nm	0.9	0.95		A/W
		V <sub>R</sub> =5V @ 1310nm	0.85	0.9		
Operating range	λ		1.0		1.65	μm
Light receiving area	D <sub>Active</sub>		500			μm
Chip size	A		700x700			μm <sup>2</sup>
Chip height	H		180+/-10			μm
Bonding pad diameter	D <sub>Pad</sub>		100			μm

### D-4. PD 1000 Electrical and Optical Characteristics ( $T_C = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Dark current	$I_D$	$V_R=5V$			15	nA
Capacitance	$C_D$	$V_R=5V$			80	PF
Responsivity	R	$V_R=5V @ 1550nm$	0.9	0.95		A/W
		$V_R=5V @ 1310nm$	0.85	0.9		
Operating range	$\lambda$		1.0		1.65	$\mu m$
Light receiving area	$D_{Active}$		1000			$\mu m$
Chip size	A		1250x1250			$\mu m^2$
Chip height	H		180+/-10			$\mu m$
Bonding pad diameter	$D_{Pad}$		120			$\mu m$

### E. PD on submount Drawing (Typical example for 300 $\mu m$ PD)

