

## FEATURES:

- High Return loss
- Epoxy-free Optical Path
- Dual Window Version Available
- Exceptionally stable and reliable
- Extremely low dark current at high temperature



## APPLICATIONS:

- PON System Monitoring
- DWDM Channel Monitoring
- Monitor for Amplifier/Telecommunication System

## DESCRIPTION:

Go!Foton's "Ultra Low Leakage" Pigtail Power Monitors are designed for optical network monitoring applications. The photodiode die is fabricated on Go!Foton's proprietary wafer fab and assembled into a hermetically-sealed package. InGaAs Photo Diode has an Ultra-low Leakage (Ultra low dark current) and a flat and rapid power response across a wide wavelength range. This product is available with mounting brackets(Flange) to ease board assembly.

## SPECIFICATION:

The products supplied to this specification shall meet or exceed all the requirements specified herein.

### A. Absolute Maximum Rating

PARAMETER	SYMBOL	UNIT	SPECIFICATION			NOTES
			MIN.	TYP.	MAX.	
Operating Temperature	Top	°C	-40	-	+85	-
Operating humidity Range (No Condensation)	RH <sub>OP</sub>	%	5	-	95	-
Storage Temperature Range	T <sub>STG</sub>	°C	-40	-	+85	-
Storage Humidity Range (No Condensation)	RH <sub>STG</sub>	%	5	-	95	-
Reverse Bias Voltage	V <sub>R</sub>	V	-	-	25	-
Forward Current	I <sub>F</sub>	mA	-	-	10	-
Electrostatic Discharge(ESD) Threshold <sup>1)</sup>	V <sub>ESD</sub>	V	-	-	250	Ultra Low Leakage Model
			-	-	500	Low Leakage Model
Soldering Temperature <sup>2)</sup>	T <sub>SOL</sub>	°C	-	250	-	-

Notes:

- 1) Capacitance :100pF, Resistance :1.5kΩ, Human Body Model
- 2) Atleast 2mm away from the device's body for < 10 seconds



## B. OPTICAL AND ELECTRICAL CHARACTERISTICS

Unless otherwise noted, test condition is at 1550nm, 25°C, Vr:5V.

PARAMETER	SYMBOL	UNIT	Model	SPECIFICATION			NOTES
				MIN.	TYP.	MAX.	
Wavelength Range	$\lambda_R$	nm	All	1260	-	1625	-
Responsivity	Rs	A/W	All	0.80	-	-	1310nm
			All	0.85	-	-	1550nm
			All	0.80	-	-	1625nm
			All	0.80	-	-	-
Return Loss	RL	dB	All	40	-	-	-
Dark Current @ 25°C	Id <sub>RT</sub>	nA	Ultra Low leakage	-	0.01	0.08	-
			Low Leakage	-	0.02	0.10	-
Dark Current @ 85°C	Id <sub>HT</sub>	nA	Ultra Low leakage	-	-	2	-
			Low Leakage	-	-	5	-
Linearity <sup>1) 2)</sup>	LIN	%	All	-5	-	+5	-
Polarization Dependent Responsivity	PDRs	dB	All	-	-	0.1	-
Capacitance	C	pF	Ultra Low leakage	-	-	1.3	1MHz, Vr:5V
			Low Leakage	-	-	2.8	
Bandwidth	BW	GHz	Ultra Low leakage	-	2.5	-	-3dB,RL=50Ω,Vr:5V
			Low Leakage	-	1.0	-	

Notes:

- 1) Linearity is measured at Vr: 5V, 1550nm, +10 to -50dBm optical input to fiber.
- 2) Linearity calculation is using below formula.

$$LIN_{MAX}(\%) = \frac{RS_{MAX} - RS_{AVE}}{RS_{AVE}} \times 100$$

$$LIN_{MIN}(\%) = \frac{RS_{MIN} - RS_{AVE}}{RS_{AVE}} \times 100$$

where:

- RS<sub>MAX</sub>: Maximum responsivity at the entire optical input range.
- RS<sub>MIN</sub>: Minimum responsivity at the entire optical input range.
- RS<sub>AVE</sub>: Average responsivity at the entire optical input range.

## C. OTHER SPECIFICATIONS

PARAMETER	SYMBOL	UNIT	SPECIFICATION	NOTES
Fiber Type	FT	-	ITU652.D Compliant Fiber	-
Fiber Length	FL	mm	1000±100	-
Fiber Coloring	FC	-	Clear	-
Optical Connector	OC	-	None	-

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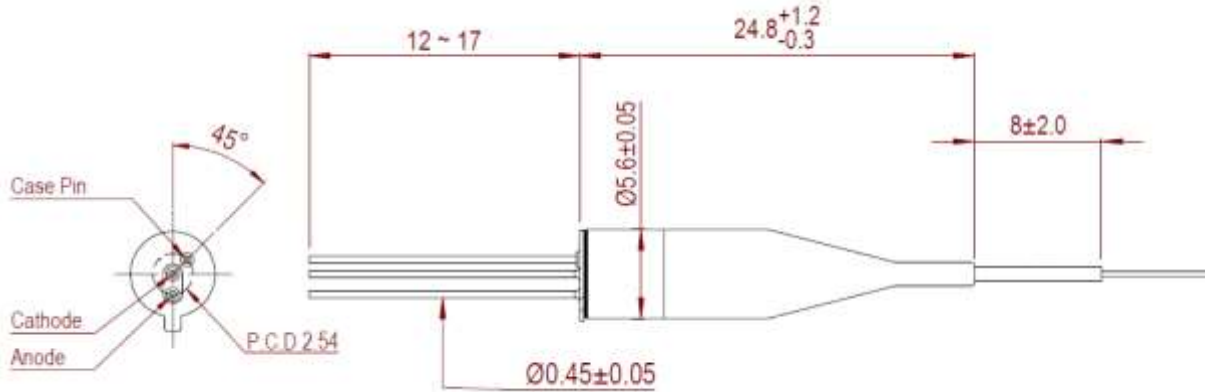
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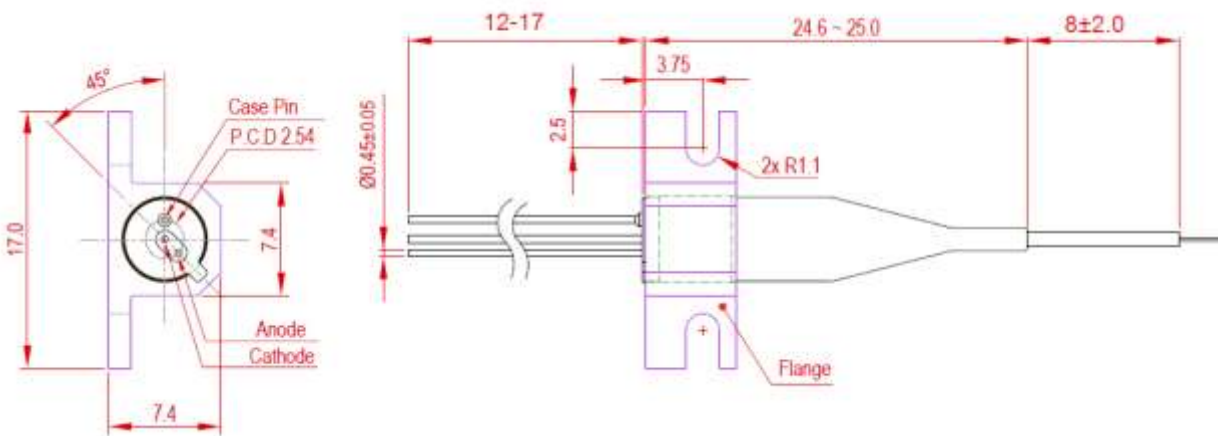
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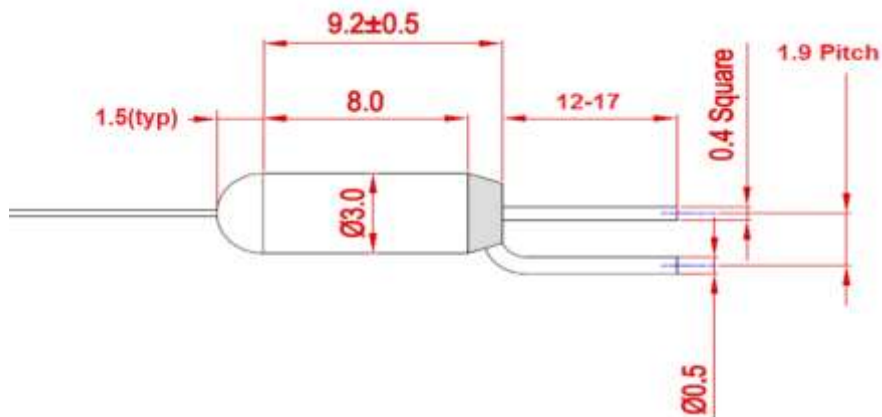
## D. PACKAGE DIMENSIONS



**Figure 1.** Standard-Size (OD5.6mm) Pigtail Power Monitor without Flange



**Figure 2.** Standard-Size (OD5.6mm) Pigtail Power Monitor with Flange



**Figure 3.** Micro-size (OD3.0mm L9.2mm) Pigtail Power Monitor

## E. ORDERING INFORMATION

<b>P</b>	<b>P</b>			<b>0</b>	<b>1</b>	<b>X</b>	<b>X</b>					<b>0</b>
1	2	3	4	5	6	7	8	9	10	11		

### Ordering Guide:

Please use this guide to create the product's model code.

FIELD NO.	FIELD DESCRIPTION	CODE	CODE DESCRIPTION	NOTES
1	Product Structure	PP	Pigtail PD	Default Code for Pigtail Power Monitor.
2	Packaging Size	S	Standard Package	See Figures 1 & 2
		M	Micro Package	See Figure 3
3	Product Grade	V	Ultra Low Leakage	See Section B
		L	Low Leakage	See Section B
4	Number of Channels	01	Single Channel	Default Code.
5	Tap Ratio	XX	Pigtail PD	Default Code for Pigtail Power Monitor.
6	Wavelength Range	C	1520-1570nm	-
		L	1570-1610nm	-
		F	1520-1610nm	-
		D	1270-1350nm+ 1520-1570nm	-
7	Fiber Type	1	250um (SMF)	-
		2	900um Loose Tube (SMF)	-
		3	900um Tight Buffer (SMF)	-
8	Fiber Length	1	1000mm	1000±100mm
		2	2000mm	2000±100mm
9	Flange/Mounting Bracket	0	No Flange	See Figure 1.
		1	With Flange	See Figure 2.
10	Connector (COM Port)	0	None	-
		1	FC/SPC	-
		2	FC/APC	-
		3	SC/SPC	-
		4	SC/APC	-
		5	LC/PC	-
		6	MU/PC	-
7	LC/APC	-		
11	Connector (REF Port)	0	None	Default Code for Pigtail Power Monitor.

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