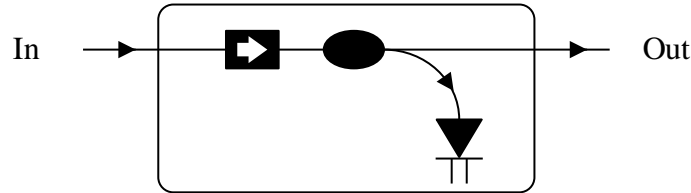


Product: Mini Isolator + Tap + PD Hybrid

Part Number	Spec Number	Version	Date
ITPDXXXXXXXXXXXX	S027	Rev 06	08/06/2024

1 Function Diagram

This is isolator + tap coupler + PIN hybrid.



2 Specifications

2.1 Environment Conditions

Item	Parameters	Symbol	Min	Typ	Max	Units	Note
1.	Operating Temperature	Top	0		70	°C	
2.	Storage Temperature	Tstor	-40		85	°C	
3.	Operating Relative Humidity	RHop	5		95	%	[1]
4.	Storage Relative Humidity	RHstor	5		95	%	[1]

Note:

[1] Not to exceed industrial standard of 0.024 kg water per kg of dry air under non-condensing conditions.

2.2 Optical Specifications

Item	Parameters	Symbol	Min	Typ	Max	Units	Note
5.	Operating Wavelength (C+ Band)	λ_{op}	1524 ~ 1574			nm	
6.	Operating Wavelength (L Band)	λ_{op}	1570 ~ 1610			nm	
7.	Tap Ratio	Tap	1			%	
		Tap	2			%	
		Tap	5			%	
		Tap	10			%	
8.	Insertion Loss @ λ_{op}	1%	IL		0.8	dB	
		2%	IL		0.9	dB	
		5%	IL		1.0	dB	
		10%	IL		1.3	dB	
9.	Isolation @ λ_{op}	Iso	18			dB	
10.	Polarization Dependent Loss @ λ_{op}	PDL			0.2	dB	
11.	Return Loss @1550nm 23°C	RL	50			dB	
12.	Polarization Mode Dispersion	PMD			0.1	ps	G
13.	Optical Power	1%	Pop		27	dBm	G
		2%	Pop		24	dBm	G
		5%	Pop		20	dBm	G
		10%	Pop		17	dBm	G

Note:

*Above specifications are for device without connector. IL is 0.3 dB higher, RL is 5 dB lower after connector added.

G: Guaranteed by design.

2.3 Electrical Specifications

Item	Parameters	Symbol	Min	Typ	Max	Units	Note	
14.	Responsivity	1%	Res	5		15	mA/W	
		2%	Res	10		30	mA/W	
		5%	Res	25		75	mA/W	
		10%	Res	50		150	mA/W	
15.	PD Directivity	Type A (17mm)	DIR	10			dB	[2]
		Type B (22mm)	DIR	20			dB	[2]
16.	Dark Current	DC			5	nA		
17.	Bias Voltage	V		-5		V		
18.	Forward Current	I			5	mA		
19.	Breakdown Voltage	V	20			V		
20.	Capacitance (f=1MHZ, -5 V Bias)	C			2	pF		
21.	PD Bandwidth	BW		2		GHz		
22.	ESD Threshold	ESD			200	V		

Note:

[2] Directivity is defined as $-10\log(R_{out \rightarrow PD}/R_{in \rightarrow PD})$ where R stands for responsivity.

2.4 Mechanical Specifications

2.4.1 Specifications

Item	Parameters	Symbol	Min	Typ	Max	Units	Note
23.	Fiber Type			By PN			
24.	Fiber Length			By PN		m	
25.	Fiber Jacket			Bare fiber			
26.	Connector Type			By PN			
27.	Package Dimension			See drawings below		mm	
28.	Fiber Color	In		Black			[3]
		Out		Natural			

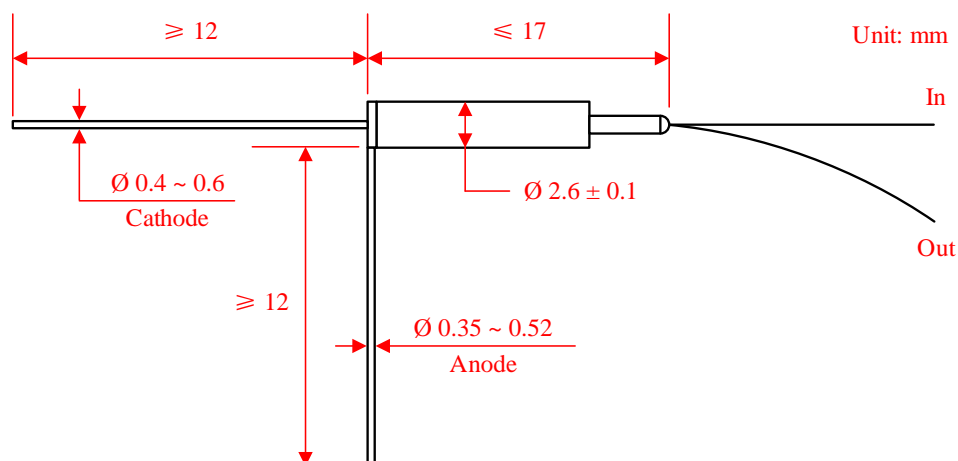
Note:

[3] Mark the fiber starting at 10~30cm away from the device body to fiber end.

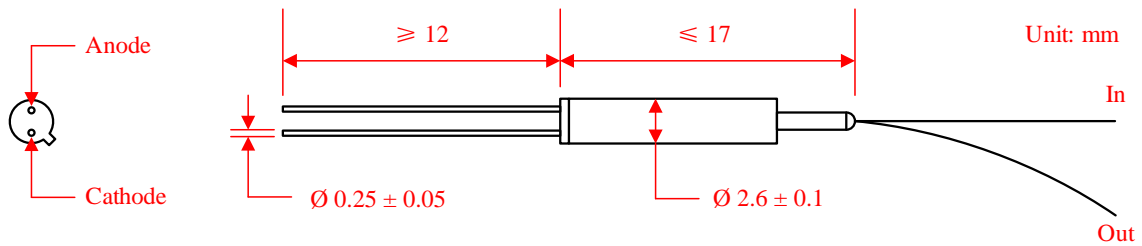
2.4.2 Drawings

1) Type A (PD Directivity \geq 10dB):

Minimum Package 1: Perpendicular Pin + Glass Tube

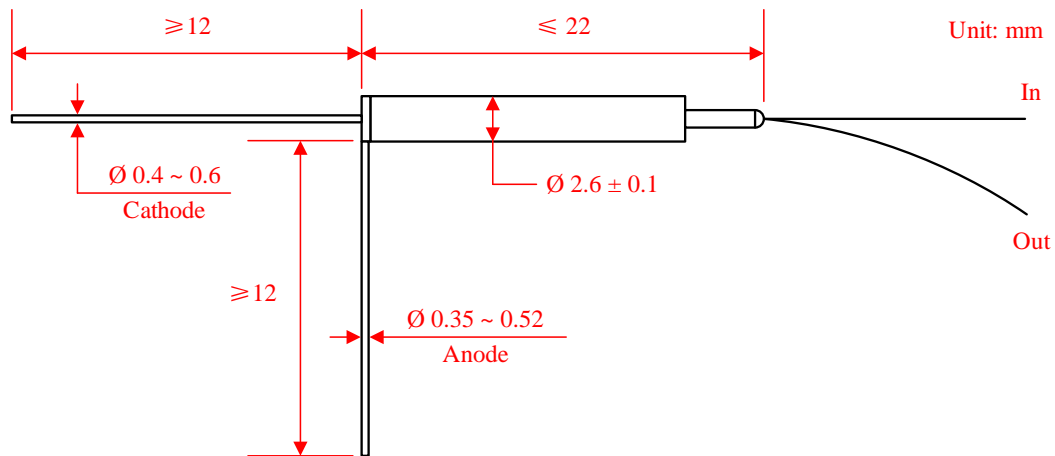


Minimum Package 2: Paralleled Pin + Glass Tube

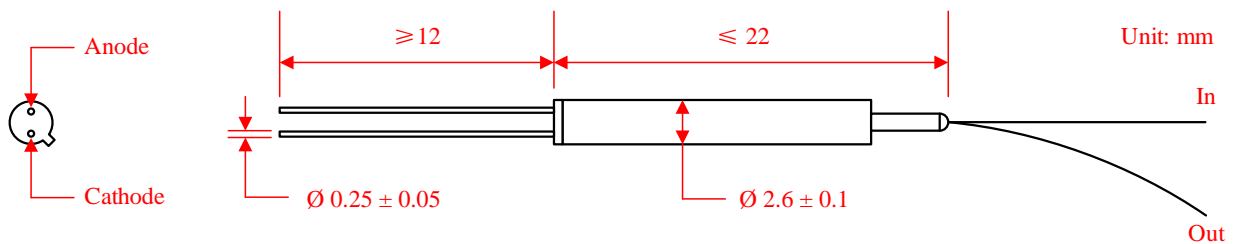


2) Type B (PD Directivity ≥ 20dB)

Minimum Package 1: Perpendicular Pin + Glass Tube



Minimum Package 2: Paralleled Pin + Glass Tube



- * If label is wrapped, the diameter increases by 0.2mm.
- * If heat shrink tube is wrapped, the diameter increases by 0.5mm.

3 Device Label, Delivery Data

Triple-Stone standard format.

4 RoHS Requirement

RoHS compliant.

5 Order Information

