



## AC6801B High Performance Analog Photodiode Modules

### Description

The AC6801B series analog photodiode is an InGaAs PIN diode sensitive to both 1310 nm and 1550 nm. It features high bandwidth (over 2 GHz), high linearity, and low noise. These broadband photodiode is offered in a small, environmentally rugged coaxial package.

### Features

- High linearity, typical CSO at  $-75$  dBc and CTB at  $-85$  dBc
- Low capacitance,  $\leq 0.6$  pF
- 1 GHz flat response,  $\pm 0.5$  dB
- High responsivity (at 1310 nm and 1550 nm)
- Designed for Telcordia GR-468 qualification

### Applications

- Forward-path and return-path broadband video transport
- FTTH Triplexer
- FTTx receiver
- EDFA/network monitor

### Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Operation Temperature Range	$T_{OP}$	0	85	$^{\circ}\text{C}$
Storage Temperature Range	$T_{stg}$	-40	100	$^{\circ}\text{C}$
Input Power Saturation	$P_{IN}$	-	3	dBm
Reverse Voltage	$V_R$	-	30	V
Forward Current	$I_F$	-	10	mA
Power Dissipation	$P_{DISS}$	-	100	mW

**Electrical/Optical Characteristics (measured at 25 °C, -15 V)**

Parameter	Symbol	Min.	Typ.	Max	Unit
Optical Wavelength Range	$\lambda$	1100	-	1600	nm
Responsivity	Resp.	0.85 at 1310 nm 0.90 at 1550 nm	- -	- -	mA/mW mA/mW
Frequency Range	F	1	-	1000	MHz
Frequency Response Flatness	-	-	$\pm 0.5$	-	dB
Distortion Products: *					
Composite Second Order	CSO	-	$\leq -75$	-70	dBc
Composite Triple Beat	CTB	-	$\leq -85$	-80	dBc
Back Reflection	$R_L$	-	-	-45	dB
Dark Current	$I_D$	-	-	5	nA
Capacitance	-	-	0.6	-	pF
Bandwidth	BW	-	2.0	-	GHz

\* Two laser test at 1310 nm. Each laser has 40% modulation index. Total received power is 0 dBm. Distortion products measured at 49 MHz, 199 MHz, 499 MHz and 850 MHz.

**Ordering Information****AC6801B-YZ-O-\*\*\***

Where: YZ = P0; Fiber pigtail with no connector  
= P1; Fiber pigtail with FC/ APC connector  
= P2; Fiber pigtail with FC/ UPC connector  
= P3; Fiber pigtail with SC/ APC connector  
= P4; Fiber pigtail with SC/ UPC connector  
= F2; FC/ APC Receptacle  
= F3; FC/ UPC Receptacle  
= S4; SC/ APC Receptacle  
= S5; SC/ UPC Receptacle

O=M; Photodiode module with type-M mounting bracket

O=N; Photodiode module with type-N mounting bracket

O=0; Photodiode module without mounting bracket

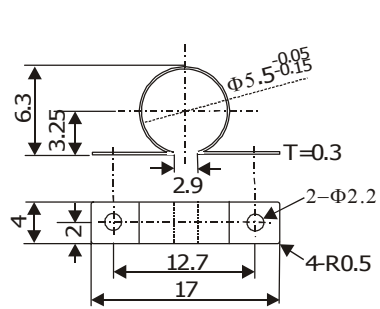
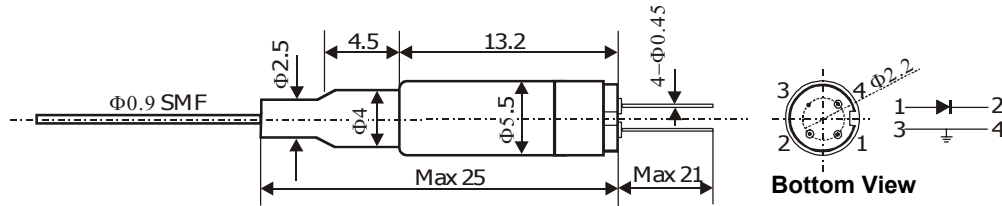
\*\*\*: Customer information

## Outline Drawings

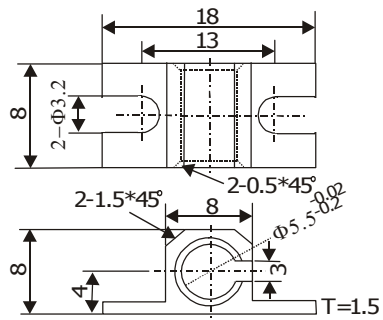
(Customer package designs are available)

(Dimensions in mm)

### AC6801B-PZ-O-\*\*\*



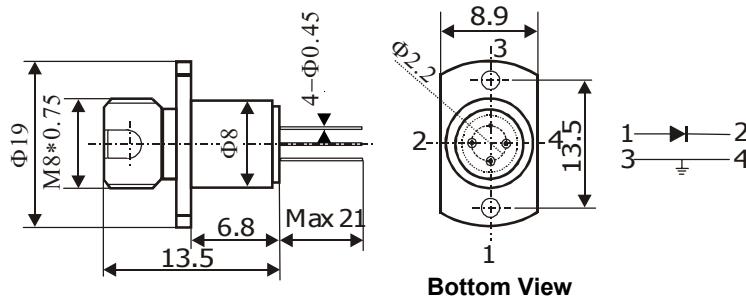
Type-M Bracket



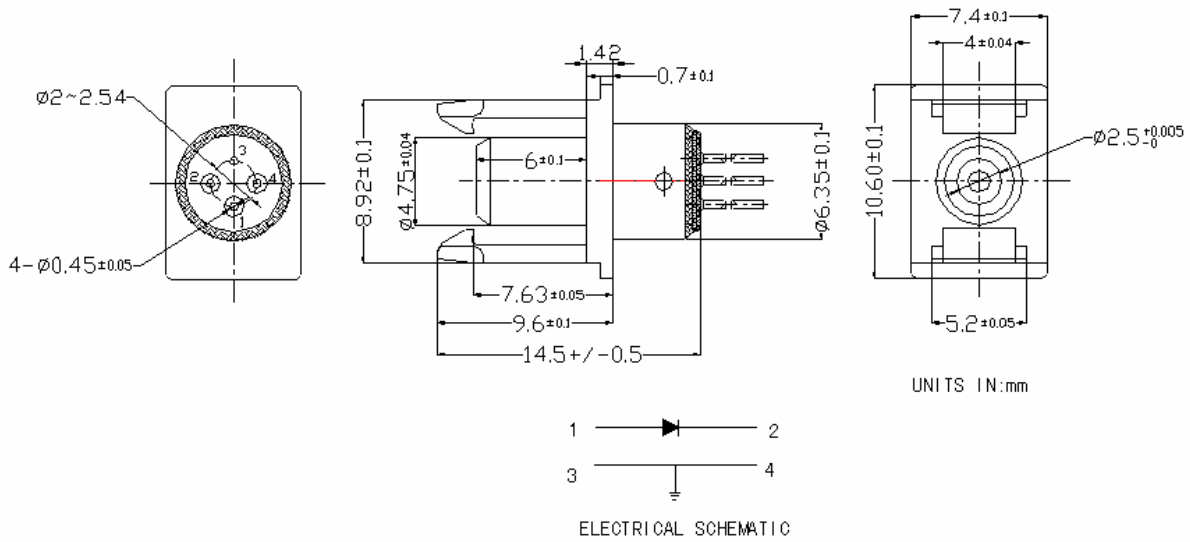
Type-N Bracket (Plastic)

### AC6801B-F2, FC/APC

### AC6801B-F3, FC/UPC



**AC6801B-S4, SC/APC**  
**AC6801B-S5, SC/UPC**



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