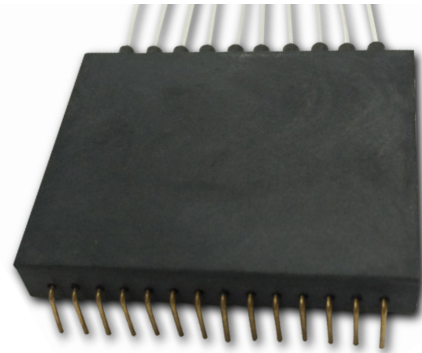


### Features:

- Low Ripple
- Low Insertion Loss
- Epoxy-Free Optical Path
- Extremely Low Dark Current
- Excellent Directivity Performance



### Applications:

- EDFA Power Monitoring/Control
- EDFA Power Monitoring/Control
- DWDM Channel Monitoring

### Description:

Go!Foton's integrated Unidirectional Tap Detector is now available in a 4ch, 8ch, or 10ch array package. Go!Foton's Unidirectional Tap Detector combines 3 important optical functions in to a single package: an optical tap based on Go!Foton's filter on lens technology, an isolator function achieved through Go!Foton's proprietary packaging technique, and a PIN photodiode based on Go!Foton's proprietary InGaAs fabrication process. The hermetically sealed InGaAs photo detector has a low dark current, a flat and rapid power response and extremely high temperature stability across a wide wavelength range. Go!Foton's filter on lens allows customers to choose tap proportion as well as wavelength range so that monitoring can be achieved on a single wavelength or a broad spectrum. Now these industry leading performance components are available in Array type packages to support densely packaged multi-channel power monitoring applications. Fewer component parts result in greater space efficiency, ease of handling, and inherently higher reliability.

### Specifications:

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

#### A. Absolute Maximum Rating

Parameter	Symbol	Unit	Specification		
			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	V <sub>r</sub>	V	-	-	25
Forward Current	I <sub>f</sub>	mA	-	-	10
Electrostatic Discharge(ESD) Threshold C:100pF,R:1.5kΩ,Human Body Model	V <sub>ESD</sub>	V	200	-	-
Soldering Temperature (< 10 sec) atleast 2mm away from the device's body.	T <sub>Sol</sub>	°C	-	250	-



## B. Optical & Electrical Characteristics

Parameter	Symbol	Unit	Specification							Condition
			0.5	1	2	5	10	30	50	
Tap Ratio	TR	%	0.5	1	2	5	10	30	50	
Wavelength Range	$\lambda_R$	nm	1520~1570							C-Band
			1570~1610							L-Band
			1510~1610							CL-Band
Insertion Loss	IL	dB	<0.5	<0.5	<0.5	<0.6	<0.8	<2.3	<3.6	$\lambda_R$ , Top
Wavelength Flatness	WDL	dB	<0.1							C-Band and L-Band
			<0.15							CL-Band
Temperature Dependent Loss	TDL	dB	<0.15							1550nm, Top
Polarization Dependent Loss	PDL	dB	<0.05							1550nm, RT
Return Loss	RL	dB	>50							1550nm, RT
Minimum Responsivity	R <sub>SMIN</sub>	mA/W	4	8	16	45	70	240	350	$\lambda_R$ , Top, Vr:5V
Maximum Responsivity	R <sub>SMAX</sub>	mA/W	8.5	15	26	65	145	400	600	$\lambda_R$ , Top, Vr:5V
Wavelength Dependent Responsivity	WDRs	dB	<0.4							C-Band, Top, Vr:5V
			<0.4							L-Band, Top, Vr:5V
			<0.45							CL-Band, Top, Vr:5V
Maximum Optical Power Handling	P <sub>max</sub>	dBm	26	23	20	16	13	8	6	
Temperature Dependent Responsivity	TDRs	dB	<0.4							C-Band, Top, Vr:5V
			<0.4							L-Band, Top, Vr:5V
			<0.45							CL-Band, Top, Vr:5V
Polarization Dependent Responsivity	PDRs	dB	<0.2							$\lambda_R$ , Top, Vr:5V
Directivity	Dir	dB	>25							TAPD-UC Model
			>33							TAPD-UCP Model
Dark Current @ 25°C	I <sub>dRT</sub>	nA	<0.08							Vr:5V
Dark Current @ 85°C	I <sub>dHT</sub>	nA	<2							Vr:5V
Linearity	LIN	%	±5%							P <sub>IN</sub> : +10dBm to -30dBm, Vr:5V, 1550nm, RT
Capacitance	C	pF	1.3(maximum)							1MHz, Vr:5V
Bandwidth	BW	GHz	2.5 (Typical)							-3dB, RL=50Ω, Vr:5V



## Schematic Drawing:

NOTES: Unless Otherwise Specified  
1. Final parts must be RoHS 6/6 compliant.

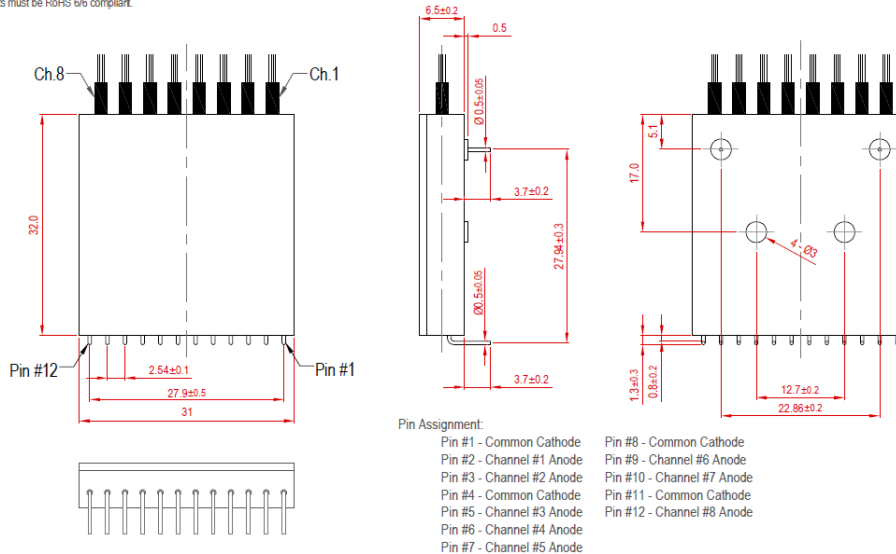
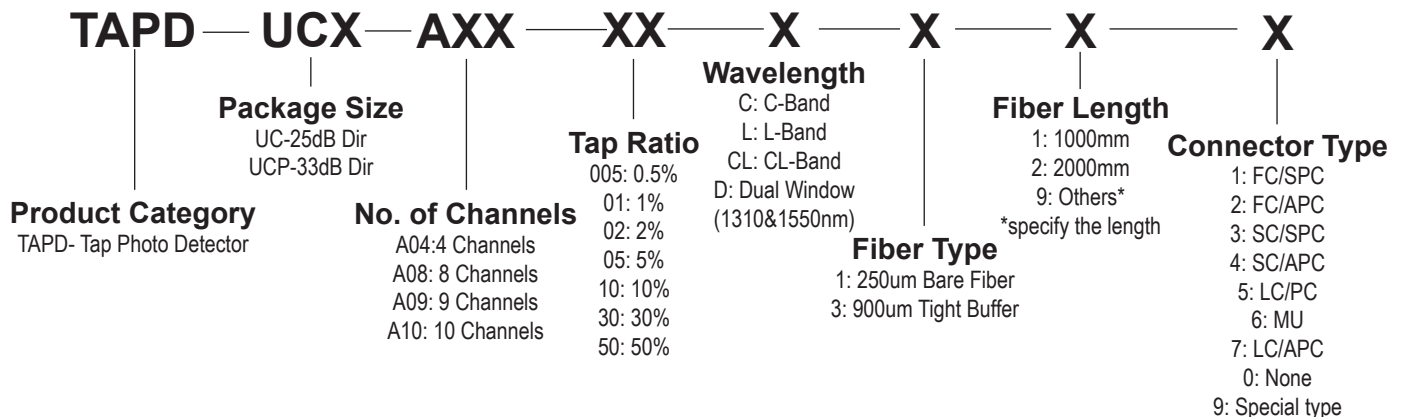


Figure 1. Compact Unidirectional Tap Detector Array 4, 8, 9 and 10 Channels

## Qualification and Reliability

Opto-Electronic devices has been qualified according to Telcordia GR-468, CORE "Generic Reliability Assurance Requirements for Opto-Electronic Devices used in Telecommunications Equipment" and the applicable company Product Quality and Reliability Program that includes conduct of Telcordia GR-468 section 2.1.4 Requalification and On-going Reliability Test (ORT) requirements and/or its equivalent. Any change to identified test conditions requires justification and approval and shall be communicated to Customers.

## Ordering Information:



**Example:** TAPD - UCP - A10 - 01 - C - 1 - 1 - 4

Compact Unidirectional TAPD, >33dB Directivity, 10 Channels, Tap 1%, C-Band (1520~1570nm), 250um Bare Fiber Type, 1000mm fiber length and with SC/APC connector on both ports.