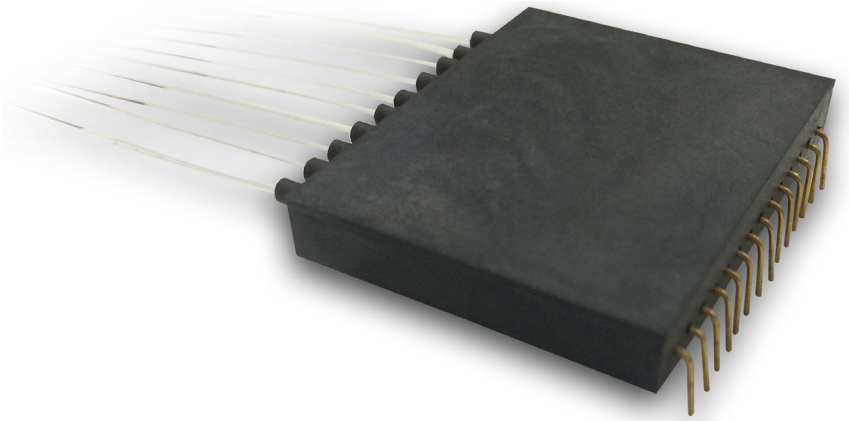
Integrated Tap Detector Array 4, 8, 9 and 10 Channels

Features:

- Low Dark Current
- Low Insertion Loss
- Broad Wavelength Range
- Excellent Thermal Stability
- Low Wavelength Dependent Loss
- Telcordia GR-468-CORE Compliant



Applications:

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

Description:

Go!Foton's Integrated Tap Detector Array combines optical couplers, based on NSG's filter-on-lens technology, with Go!Foton's proprietary PIN photodiodes to create a multi channel optical power monitor. The integrated design reduces the number of parts, minimizes fiber handling and results in a compact footprint, which simplifies assembly of amplifier and WDM monitoring devices. 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. This device is also available with "Ribbonized Fiber" option for easy connection.

Specifications:

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

A. Absolute Maximum Rating

Parameters	Symbol	Unit	Specification		
			Min	Typ	Max
Operating Temperature	Top	°C	-40	-	+ 85
Operating humidity Range (No Condensation)	RH_{OP}	%	5	-	95
Storage Temperature Range	T_{stg}	°C	- 40	-	+85
Storage Humidity Range (No Condensation)	RH_{stg}	%	5	-	95
Reverse Bias	Vr	V	-	-	25
Forward Current	I_f	mA	-	-	10
Electrostatic Discharge(ESD) Threshold C:100pF,R:1.5kΩ,Human Body Model	V_{ESD}	V	500	-	-
Soldering Temperature (< 10 sec) atleast 2mm away from the device's body.	T_{Sol}	°C	-	250	-

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B. Optical & Electrical Characteristics

Parameter	Symbol	Unit	Specification							Condition
Tap Ratio	TR	%	0.5	1	2	5	10	30	50	
Wavelength Range	λ_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	λ_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_{SMIN}	mA/W	4	8	16	45	70	240	350	λ_R , Top, Vr:5V
Maximum Responsivity	R_{SMAX}	mA/W	8.5	15	26	65	145	400	600	λ_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
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							λ_R , Top, Vr:5V
Dark Current @ 25°C	Id_{RT}	nA	<0.10							Vr:5V
Dark Current @ 85°C	Id_{HT}	nA	<5							Vr:5V
Linearity	LIN	%	±5%							P_{IN}: +10dBm to-30dBm, Vr:5V,1550n-m,RT
Capacitance	C	pF	2.5(maximum)							1MHz, Vr:5V
Bandwidth	BW	GHz	1 (Typical)							-3dB,RL=50Ω,Vr:5V

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Schematic Drawing of Package:

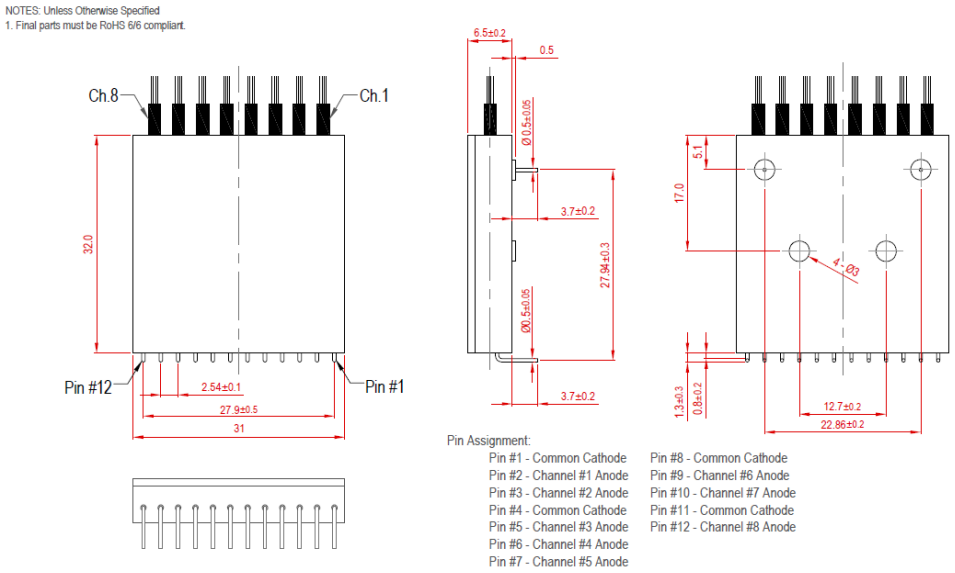

Figure 1. Integrated Tap Detector Array 4, 8, 9 and 10 Channels

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:

TAPD — C — AXX — XX — X — X — X — X

Product Category
TAPD-Tap Photo Detector

Package Size
C - Compact

No. of Channels
A04:4 Channels
A08: 8 Channels
A09: 9 Channels
A10: 10 Channels

Tap Ratio
005: 0.5%
01: 1%
02: 2%
05: 5%
10: 10%
30: 30%
50: 50%

Wavelength
C: C-Band
L: L-Band
CL: CL-Band
D: Dual Window (1310&1550nm)

Fiber Type
1: 250um Bare Fiber
3: 900um Tight Buffer

Fiber Length
1: 1000mm
2: 2000mm
9: Others*
*specify the length

Connector Type
1: FC/SPC
2: FC/APC
3: SC/SPC
4: SC/APC
5: LC/PC
6: MU
7: LC/APC
0: None
9: Special type

Example: TAPD - C – A-10 - 01 - C - 1 - 1 - 4

Tap Photo Detector Array, Compact Package, 10 Channels, Tap 1%, C-Band(1520~1570nm), 250um Bare Fiber Type, 1000mm fiber length and with SC/APC connector on both ports

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