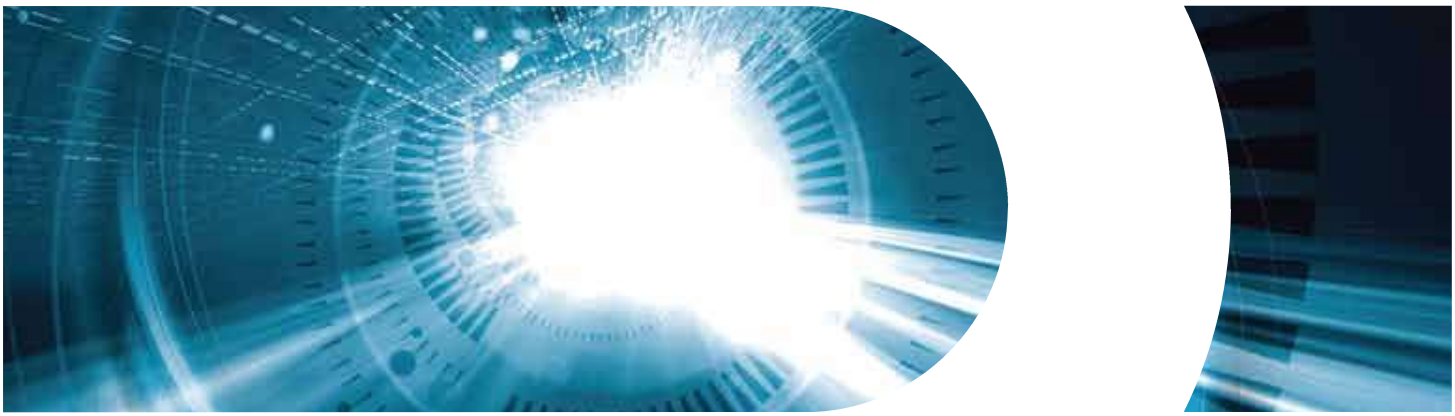
3SP Group



Pin Photodiode

KeyFeatures

- InGaAs Material
- Planar Zn Diffused Structure
- 70 Micron in Diameter Active Area
- Front-illuminated Photodiode
- High Responsivity (0.85 A/W on a Wide Range (1300nm to 1600nm)
- Low Dark Current

Applications

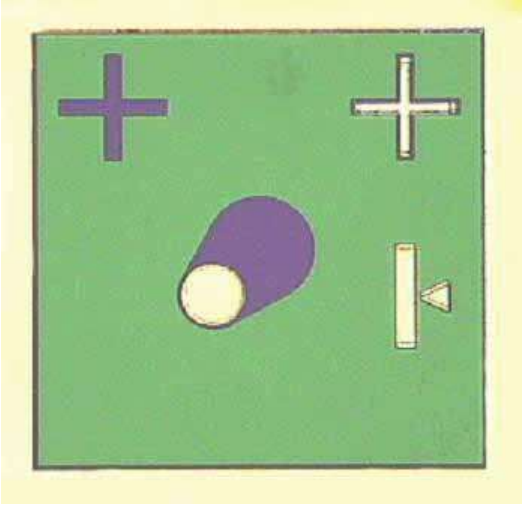
- 2.5 Gb/s Receiver Modules
- Telecom
- Instrumentation

1911 DC

InGaAs Digital Signal PIN Photodiode for 2.5Gb/s

1911 DC chip is a 2.5Gb/s pin photodiode. It is based on InGaAs material grown by Metal Organic Vapor Deposition (MOCVD) on InP substrates. The InGaAs PIN photodiode, which diameter is 70 microns, is realized with Zinc diffusion and with a planar structure for high reliability.

1911 DC chip is a front-illuminated photodiode suitable for a wide operating wavelength range from 1300nm to 1600nm and that can be easily mounted onto a submount.



For moreInfo

3SP Technologies S.A.S.
Route de Villejust
91625 Nozay Cedex, France
Tel : +33 (0)1 69 80 57 50
Fax : +33 (0)1 69 80 58 83
customerservice@3spgroup.com

1911 DC

InGaAs Digital Signal PIN Photodiode for 2.5Gb/s

ELECTRO-OPTICAL **CHARACTERISTICS**

The following parameters are specified Beginning of Life for chips mounted p-up on Alumina submount and Tsubmount= 25°C.

Parameters	Test conditions	Symb	Min	Typ	Max	Unit
Dark current at 25°C	-5V, 25°C	Idark	-	-	1	nA
Dark current	-5V, from -55°C to 95°C	Idark	-	-	300	nA
Breakdown voltage	1µA	Vb	25	-	-	V
Forward voltage	1mA	Vf	0.5	-	2	V
Responsivity	I =1.55m m	S	0.85	-	-	A/W
	-5V and 1µW					
Capacitance	0V- 1MHz	C	-	-	2.0	pF
	-5V- 1MHz				2.5	
Cut-off frequency	At –3dB and -5V	Fc	2	-	-	GHz

Absolute Maximum **Ratings**

Exposing the device to stresses above those listed in this section could cause permanent damage. The device is not meant to operate under conditions outside the operational limits described in subsequent sections. Exposure to absolute maximum rating conditions for extended periods may adversely affect device reliability.

Parameter	Conditions	Symbol	Min	Max	Unit
Storage temperature		T_{stg}	-40	100	°C
Operating temperature		T_{op}	-40	85	°C
Photodiode reverse voltage	10ms max	Vr	-	25	V
Photodiode forward current		If		10	mA
Soldering temperature	10s		-	320	°C
ESD*	At Cd=100pF and Rd=1500 Ω	V_{ESD}	-	300	V

* Human Body model

Mechanical PD Chip **Dimensions**

Parameters	Min	Typ	Max	Unit
Active area	-	70	-	µm
Bond pad diameter	-	36	-	
Die width	330	350	370	µm
Die length	330	350	370	µm
Die thickness	120	130	140	µm

Qualification & **Reliability**

The 1911 DC monitoring photodiode chip is compliant with a complete qualification program based on Telcordia GR-468-Core recommendations.

1911 DC

InGaAs Digital Signal PIN Photodiode for 2.5Gb/s

Handling

This product is sensitive to electrostatic discharge and should not be handled except at a static free workstation.

Take precautions to prevent ESD; use wrist straps, grounded work surfaces and recognized anti-static techniques when handling the product.

Care should be taken to avoid supply transient, over voltage and over power. Over voltage and over power above the maximum specified in absolute maximum rating section may cause permanent damage to the device.

Ordering **Information**

1911 DC

Component	Part Number
Chip	TBD
Chip on Submount	TBD

Revised March 2012

ORDERING **INFO**

Please contact your Sales Manager. 3SPGroup can also develop custom products to meet a wide range of technical requirements.