

Pin Photodiode

Key Features

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

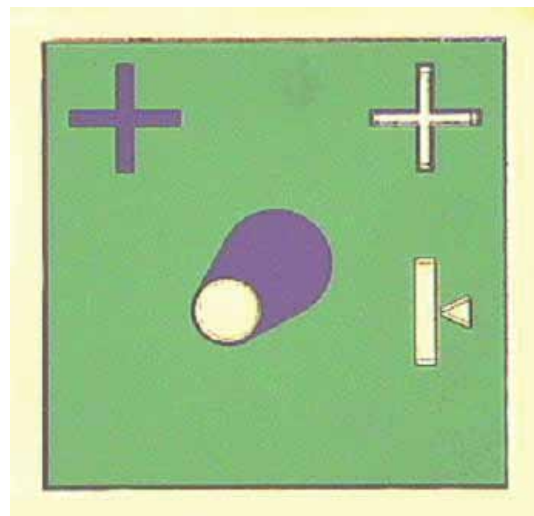
Instrumentation

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 more info

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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
Capacitance	-5V and 1μW	C	-	-	2.0	pF
	0V- 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.

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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

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Please note: information in this document is typical and must be specifically confirmed in writing by your supplier before it becomes applicable to any order or contract. Information is subject to change without notice.

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ORDERING INFO

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