

R-11-XXX-G-A(B)



**Features**

- InGaAs/InP PIN Photodiode
- High Responsivity @1310 nm and 1550 nm
- Low dark current
- Fast pulse response
- -40 to 85°C operating temperature
- Hermetically sealed 3-pin metal case
- Active diameter is 40, 55, 75, 100 or 300 μm
- TO-46 package with intergrated flat window cap
- Connectorized receptacle module application
- Coaxial pigtail module application
- Data and Telecommunication application

Absolute Maximum Rating (Tc=25°C)

Parameter	Symbol	Min	Max	Unit
Reverse Voltage	$V_R$	-	20	V
Forward Current	$I_F$	-	2	mA
Reverse Current	$I_R$	-	1	mA
Operating Temperature	$T_{opr}$	-40	+85	°C
Storage Temperature	$T_{stg}$	-40	+85	°C

R-11-040-G-A(B)

Optical and Electrical Characteristics (Tc=25°C)

Parameter	Symbol	Min	Typical	Max	Unit	Test condition
Active area(Dia)	-	-	40	-	μm	-
Detection Range	-	1100	1310	1650	nm	-
Responsivity	R	0.75	0.8	-	A/W	$V_R = 5V, \lambda = 1310 \text{ nm}$
Dark Current	$I_{dark}$	-	-	0.8	nA	$V_R = 5V$
Capacitance	C	-	0.7	-	pF	$V_R = 5V$
Bandwidth	BW	4	-	-	GHz	$V_R = 5V$

R-11-055-G-A(B)

Optical and Electrical Characteristics (Tc=25°C)

Parameter	Symbol	Min	Typical	Max	Unit	Test condition
Active area(Dia)	-	-	55	-	μm	-
Detection Range	-	1100	1310	1650	nm	-
Responsivity	R	0.75	0.8	-	A/W	$V_R = 5V, \lambda = 1310 \text{ nm}$
Dark Current	$I_{dark}$	-	-	0.8	nA	$V_R = 5V$
Capacitance	C	-	0.8	-	pF	$V_R = 5V$
Bandwidth	BW	3	-	-	GHz	$V_R = 5V$

## R-11-XXX-G-A(B)

## R-11-075-G-A(B)

## Optical and Electrical Characteristics( Tc=25°C )

Parameter	Symbol	Min	Typical	Max	Unit	Test condition
Active area(Dia)	-	-	75	-	μm	-
Detection Range	-	1100	1310	1650	nm	-
Responsivity	R	0.8	0.85	-	A/W	$V_R = 5V, \lambda = 1310 \text{ nm}$
Dark Current	$I_{\text{dark}}$	-	-	0.8	nA	$V_R = 5V$
Capacitance	C	-	1.2	-	pF	$V_R = 5V$
Bandwidth	BW	2	-	-	GHz	$V_R = 5V$

## R-11-100-G-A(B)

## Optical and Electrical Characteristics( Tc=25°C )

Parameter	Symbol	Min	Typical	Max	Unit	Test condition
Active area (Dia)	-	-	100	-	μm	-
Detection Range	-	1100	1310	1650	nm	-
Responsivity	R	0.8	0.85	-	A/W	$V_R = 5V, \lambda = 1310 \text{ nm}$
Dark Current	$I_{\text{dark}}$	-	-	2	nA	$V_R = 5V$
Capacitance	C	-	2.5	-	pF	$V_R = 5V$
Bandwidth	BW	1.5	-	-	GHz	$V_R = 5V$

## R-11-300-G-A(B)

## Optical and Electrical Characteristics( Tc=25°C )

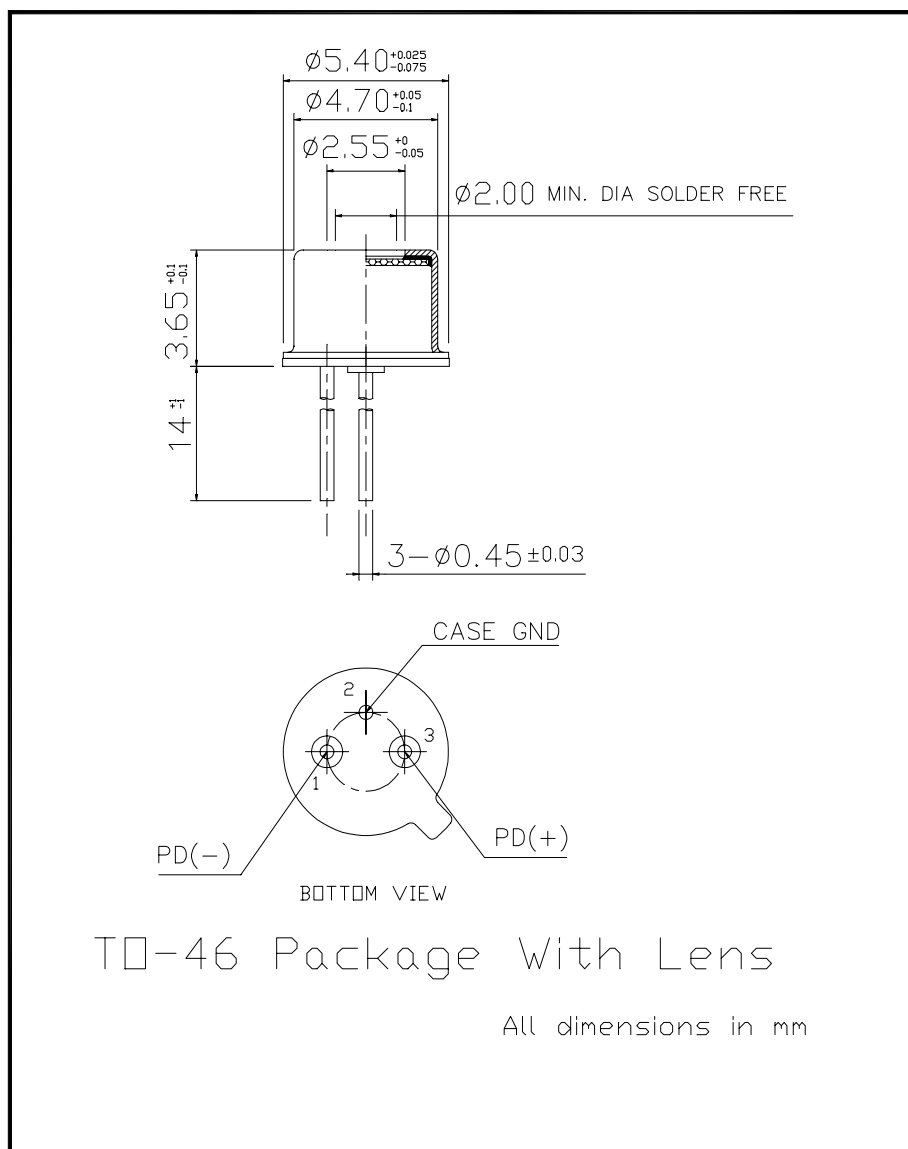
Parameter	Symbol	Min	Typical	Max	Unit	Test condition
Active area (Dia)	-	-	300	-	μm	-
Detection Range	-	1100	1310	1650	nm	-
Responsivity	R	0.8	0.85	-	A/W	$V_R = 5V, \lambda = 1310 \text{ nm}$
Dark Current	$I_{\text{dark}}$	-	-	5	nA	$V_R = 5V$
Capacitance	C	-	6	-	pF	$V_R = 5V$
Bandwidth	BW	0.5	-	-	GHz	$V_R = 5V$

R-11-XXX-G-A(B)

Package Diagram

Diagram 1 is for R-11-XXX-G-A

Diagram 1



R-11-XXX-G-A(B)

Package Diagram

Diagram 2 is for R-11-XXX-G-AB  
 Diagram 3 is the functional schematic for R-11-XXX-G-A(B)

Diagram 2

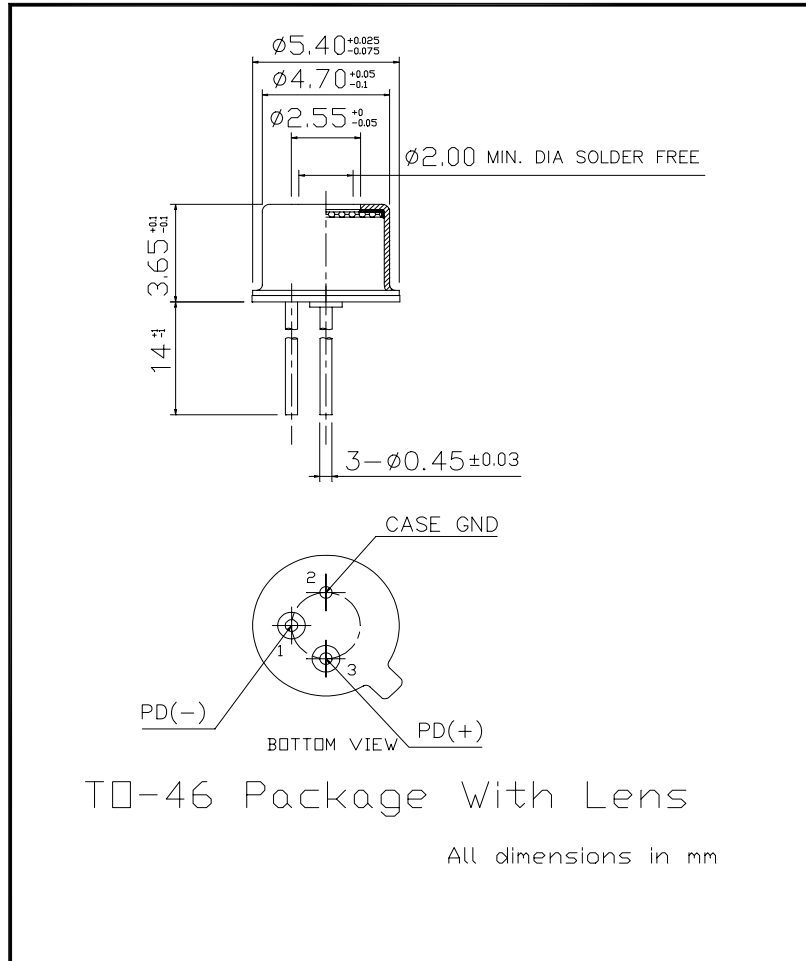
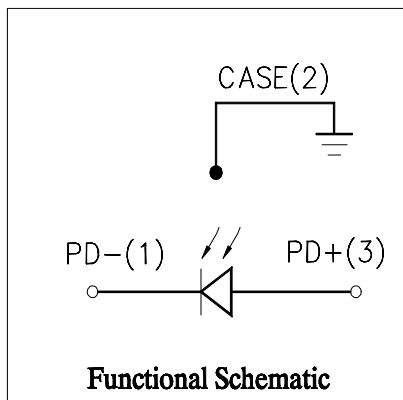


Diagram 3



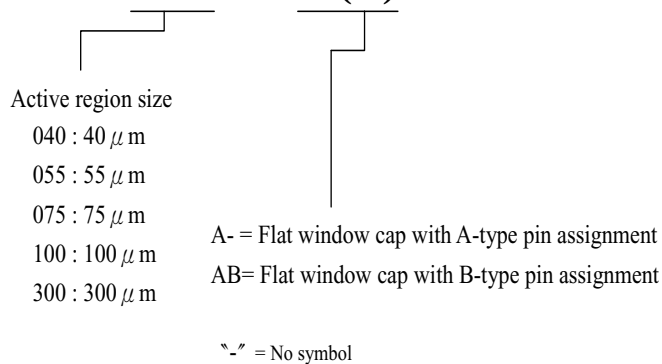
## R-11-XXX-G-A(B)

## Ordering Information

## Available Options:

R-11-040-G-A  
 R-11-055-G-A  
 R-11-075-G-A  
 R-11-100-G-A  
 R-11-300-G-A  
 R-11-040-G-AB  
 R-11-055-G-AB  
 R-11-075-G-AB  
 R-11-100-G-AB  
 R-11-300-G-AB

## R-11-XXX-G-A(B)



## Warnings

**Handling Precautions:** This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

**Laser Safety:** Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

## Legal Notice

**IMPORTANT NOTICE!**

All information contained in this document is subject to change without notice, at LuminentOIC's sole and absolute discretion. LuminentOIC warrants performance of its products to current specifications only in accordance with the company's standard one-year warranty; however, specifications designated as "preliminary" are given to describe components only, and LuminentOIC expressly disclaims any and all warranties for said products, including express, implied, and statutory warranties, warranties of merchantability, fitness for a particular purpose, and non-infringement of proprietary rights. Please refer to the company's Terms and Conditions of Sale for further warranty information.

LuminentOIC assumes no liability for applications assistance, customer product design, software performance, or infringement of patents, services, or intellectual property described herein. No license, either express or implied, is granted under any patent right, copyright, or intellectual property right, and LuminentOIC makes no representations or warranties that the product(s) described herein are free from patent, copyright, or intellectual property rights. Products described in this document are NOT intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. LuminentOIC customers using or selling products for use in such applications do so at their own risk and agree to fully defend and indemnify LuminentOIC for any damages resulting from such use or sale.

THE INFORMATION CONTAINED IN THIS DOCUMENT IS PROVIDED ON AN "AS IS" BASIS. Customer agrees that LuminentOIC is not liable for any actual, consequential, exemplary, or other damages arising directly or indirectly from any use of the information contained in this document. Customer must contact LuminentOIC to obtain the latest version of this publication to verify, before placing any order, that the information contained herein is current.

© LuminentOIC, Inc. 2003  
 All rights reserved