



## Datasheet

## HSA-X-S-2G-IN

### Ultra High-Speed Photoreceiver with InGaAs-PIN Photodiode



The picture shows the HSA-X-S-2G-IN-FS with free space input. The photoreceiver will be delivered without post holder and post.

Features	<ul style="list-style-type: none"> <li>• <b>Bandwidth 10 kHz ... 2 GHz</b></li> <li>• <b>InGaAs-PIN detector</b></li> <li>• <b>Spectral range 900 ... 1700 nm</b></li> <li>• <b>Amplifier transimpedance (gain) <math>5 \times 10^3</math> V/A</b></li> <li>• <b>Conversion gain <math>4.75 \times 10^3</math> V/W @ 1550 nm</b></li> </ul>																																				
Applications	<ul style="list-style-type: none"> <li>• <b>Spectroscopy</b></li> <li>• <b>Ultra-fast pulse and transient measurements</b></li> <li>• <b>Optical triggering</b></li> <li>• <b>Optical front-end for oscilloscopes and ultra-fast A/D converters</b></li> </ul>																																				
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## Ultra High-Speed Photoreceiver with InGaAs-PIN Photodiode

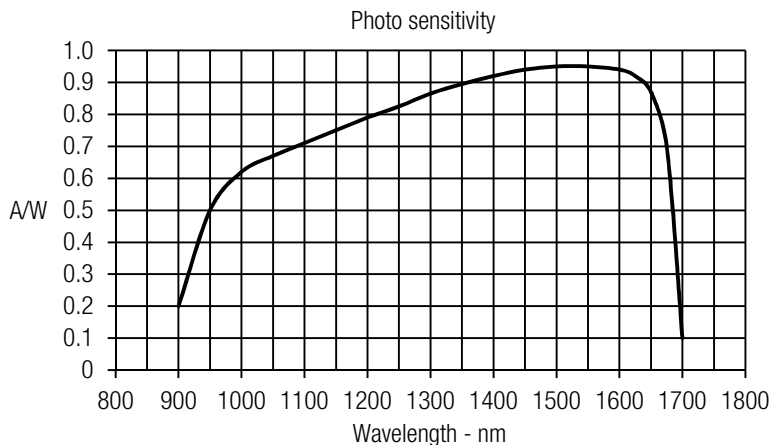
Specifications (continued)

Output	Output impedance	50 Ω	(designed for 50 Ω load)
	Output VSWR	2.5 : 1	@ f < 2.5 GHz
	Output return loss	7.3 dB	@ f < 2.5 GHz
	Max. output voltage	1.9 V <sub>pp</sub>	@ 50 Ω load, for linear amplification
	Output noise	typ. 3.6 mV <sub>RMS</sub> or 24 mV <sub>pp</sub> * (measurement BW: 4 GHz)	
* The peak-to-peak output noise is derived from the RMS noise as follows: V <sub>pp</sub> = V <sub>RMS</sub> x 6.6 (99.9% of the time the output noise voltage will be within the specified peak-to-peak value.)			
Power Supply	Supply voltage	+15 V, 130 mA typ. (depends on operating conditions, recommended power supply capability minimum 200 mA)	
Case	Weight	100 g (0.23 lbs)	
	Material	AlMg4.5Mn, nickel-plated	
Temperature Range	Storage temperature	-40 ... +100 °C	
	Operating temperature	0 ... +60 °C	

Absolute Maximum Ratings

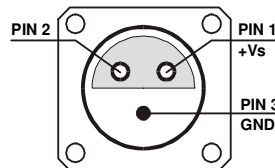
Power supply voltage	±20 V
Optical input power	12 mW (averaged)

Spectral Response



Connectors

Input	HSA-X-S-2G-IN-FS	25 mm round flange for free space applications
	HSA-X-S-2G-IN-FC	FC fiber optic receptacle
Output	SMA jack (female)	
Power supply	Lemo® series 1S, 3-pin fixed socket (mating plug type: FFA.1S.303.CLAC52)	
	Pin 1:	+15 V
	Pin 2:	NC
	Pin 3:	GND



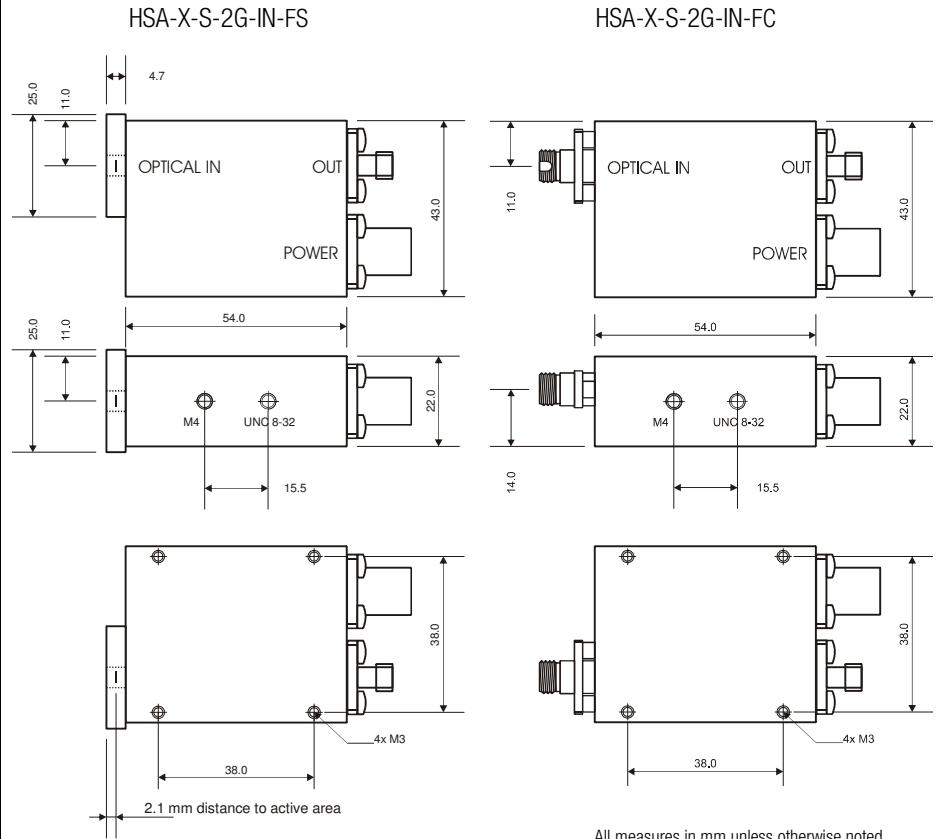
# Ultra High-Speed Photoreceiver with InGaAs-PIN Photodiode

Available Models

HSA-X-S-2G-IN-FS  
HSA-X-S-2G-IN-FC  
HSA-X-S

free space input  
fiber optic receptacle  
customized versions available on request

Dimensions



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