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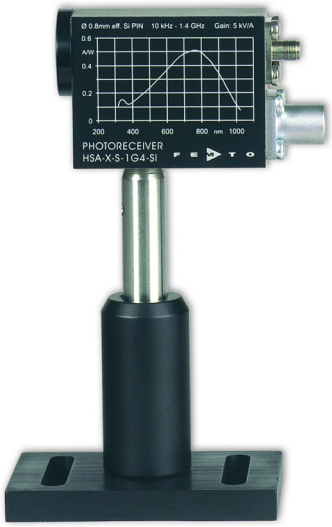
Datasheet HSA-X-S-1G4-SI

Ultra High Speed Photoreceiver with Si PIN Photodiode



The picture shows the HSA-X-S-1G4-SI-FS with free space input.
The photoreceiver will be delivered without post holder and post.

Features

- **Bandwidth 10 kHz ... 1.4 GHz**
- **Si PIN Detector, Ø 0.8 mm Effective Active Diameter**
- **Spectral Range 320 ... 1000 nm**
- **Amplifier Transimpedance (Gain) 5 x 10^3 V/A**
- **Max. Conversion Gain 2.5 x 10^3 V/W @ 760 nm**

Applications

- **Spectroscopy**
- **Ultra Fast Pulse and Transient Measurements**
- **Optical Triggering**
- **Optical Front-End for Oscilloscopes and Ultra Fast A/D Converters**

Specifications

Test Conditions — *Vs = + 15 V, Ta = 25°C, System Impedance = 50 Ω*

Gain	Amplifier Transimpedance	5 x 10^3 V/A	(@ 50 Ω load)
	Conversion Gain	2.5 x 10^3 V/W	(@ 760 nm)
Frequency Response	Lower Cut-Off Frequency	10 kHz	
	Upper Cut-Off Frequency (- 3 dB)	1.4 GHz	(± 10 %)
	Rise/Fall Time (10% - 90%)	250 ps	
	Gain Flatness	± 1 dB	
Input / Detector	Detector Material	Si PIN photodiode	
	Active Area	effective Ø 0.8 mm (actual Ø 0.4 mm plus ball lens)	
	Spectral Range	320 ... 1000 nm	
	Max. Optical Peak Input Power	400 µW	(for linear amplification, @ 760 nm))
Noise	Min. NEP	26 pW/√Hz	(@ 760 nm, 100 MHz)
Output	Output Impedance	50 Ω	(designed for 50 Ω load)
	Max. Output Voltage	1.9 Vpp	(@ 50 Ω load, for linear amplification)
Power Supply	Supply Voltage	+ 15 V, 130 mA typ. (depends on operating conditions, recommended power supply capability minimum 200 mA)	

Ultra High Speed Photoreceiver with Si PIN Photodiode

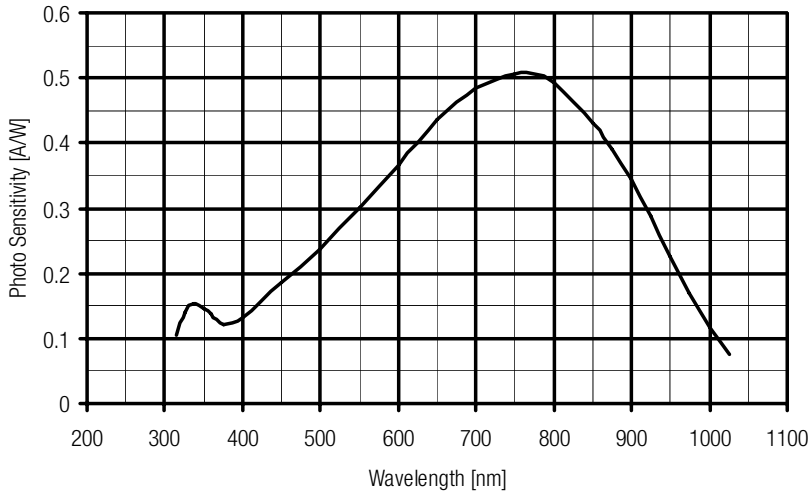
Specifications (continued)

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

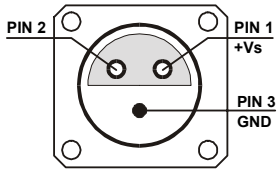
Power Supply Voltage	± 22 V
Optical Input Power	10 mW (averaged)

Spectral Response



Connectors

Input	HSA-X-S-1G4-SI-FS	25 mm round flange for free space applications
	HSA-X-S-1G4-SI-FC	FC fiber optic receptacle
Output	SMA	
Power Supply	LEMO series 1S, 3-pin fixed socket Pin 1: + 15V Pin 2: n.c. Pin 3: GND	



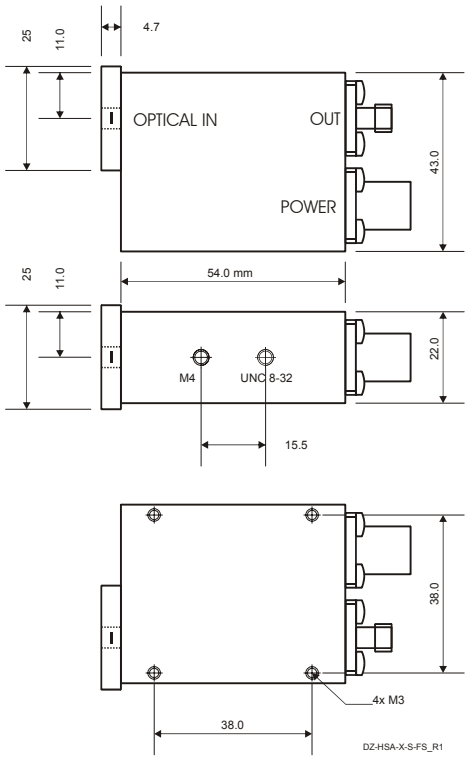
Available Models

HSA-X-S-1G4-SI-FS	free space input
HSA-X-S-1G4-SI-FC	FC fiber optic receptacle
HSA-X-S	customized versions available on request

Ultra High Speed Photoreceiver with Si PIN Photodiode

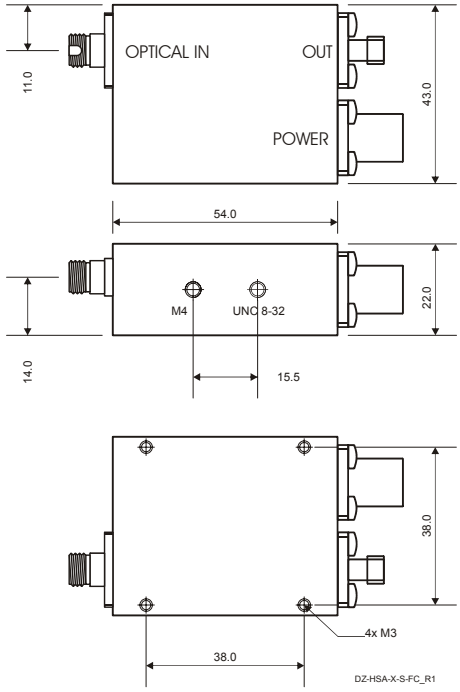
Dimensions

HSA-X-S-1G4-SI-FS



all measures in mm unless otherwise noted

HSA-X-S-1G4-SI-FC



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