

## 1.1.1.6 Integrating Spheres

### 1.1.1.6.3 NIR 1.5" High Speed Response, Multi-functional Integrating Sphere

600nW – 3W

#### Features

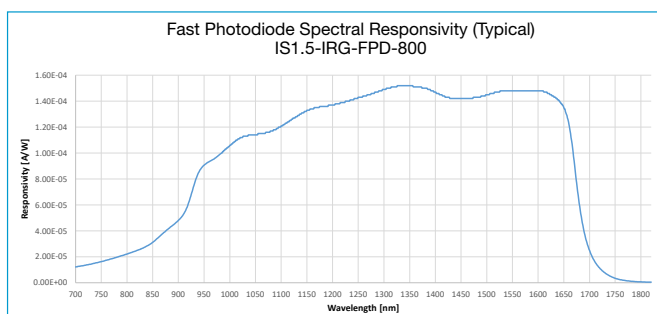
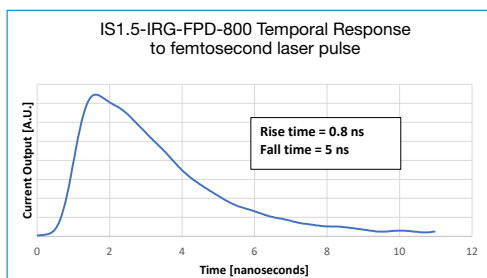
- Fast photodiode for pulse shape characterization of VCSELs
- Built in SMA fiber adapter for connection to a spectrometer
- Large, 20mm input port enabling long working distance
- Accepts beams with divergence angles up to  $\pm 50^\circ$
- Small integrating sphere with short time constant

IS1.5-IRG-FPD-800



Model	IS1.5-IRG-FPD-800		
Use	Multi-functional Integrating Sphere		
<b>Specifications</b>		<b>Detector 2</b>	
Input Port Aperture mm	$\varnothing 20$	Type	Fast InGaAs photodiode
Maximum Beam Divergence deg°	$\pm 50$	Function	Temporal pulse shape detection
Damage Threshold on Integrating Sphere Surface W/cm <sup>2</sup>	200 (average power)	Spectral Range $\mu\text{m}$	0.94 – 1.64
Integrating Sphere Time Constant nsec	<0.7	Rise Time (10% to 90%) nsec	0.8
Fiber Optic Port	SMA connector, maximum NA 0.44	Fall Time (90% to 10%) nsec	5
Outputs	Smart Head for power measurement, BNC (50 $\Omega$ ) for temporal pulse shape detection, SMA for optical fiber	Bias Voltage Input V	9
Cooling	Convection	Typical CW Responsivity mA/W <sup>(b)</sup>	0.14 @ 1100 - 1500nm
Operating Temperature Range °C	+15 to +40	Dark Current nA	1
Storage Temperature Range °C	-20 to +60	Noise Current fA/ $\sqrt{\text{Hz}}$	15.5
Humidity	The product must not be exposed to high humidity. Range 20% ~ 70% RH non-condensing	Output	Analog current
Sensitivity to Beam Size and Angle	$\pm 2\%$		
<b>Detector 1</b>		<b>General</b>	
Type	InGaAs photodiode, calibrated	Weight g	530
Function	Average power	Compliance	CE, UKCA, China RoHS
Spectral Range $\mu\text{m}$	0.94 – 1.64	<b>Part number</b>	<b>7Z02493</b>
Power Range	600nW – 3W		
Pulse Width	Not limited		
Pulse Repetition Rate <sup>(a)</sup>	Not limited		
Power Scales	3W to 3 $\mu\text{W}$		
Power Accuracy	$\pm 3\%$ 940nm – 1100nm, $\pm 4\%$ 1100nm - 1640nm		
Linearity with Power $\pm\%$	2		
Power Noise Level nW	30		
Output	Smart Head, D15		

Notes: (a) Below 200Hz use low frequency mode in meter  
(b) Responsivity data provided with sensor



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