

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 $\pm 60^\circ$
- Small integrating sphere with short time constant

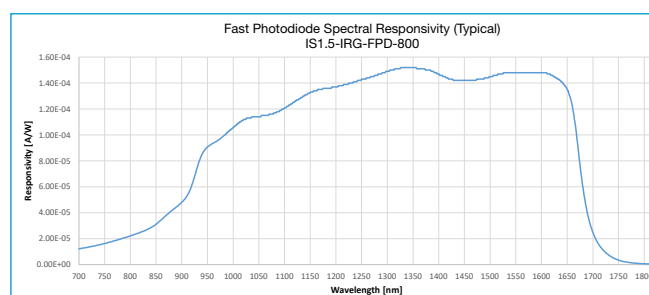
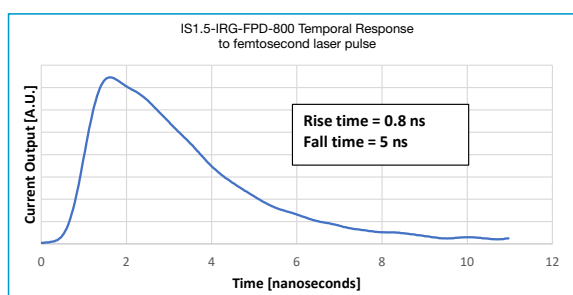
IS1.5-IRG-FPD-800



Model	IS1.5-IRG-FPD-800		
Use	Multi-functional Integrating Sphere		
Specifications			
Input Port Aperture mm	$\varnothing 20$	Cooling	Convection
Maximum Beam Divergence Degrees	$\pm 60^{(a)}$	Operating Temperature Range $^\circ\text{C}$	+15 to +40
Sensitivity to Beam Size and Angle	$\pm 2\%^{(b), (c)}$	Storage Temperature Range $^\circ\text{C}$	-20 to +60
Damage Threshold on Integrating Sphere Surface W/cm^2	200 (average power)	Humidity Range	20% ~ 70% RH non-condensing. The product must not be exposed to high humidity
Integrating Sphere Time Constant nsec	<0.7	Weight g	530
Fiber Optic Port	SMA connector, maximum NA 0.44	Compliance	CE, UKCA, China RoHS
Outputs	Smart Head for power measurement, BNC (50 Ω) for temporal pulse shape detection, SMA for optical fiber	Power Supply	Push-pull 2 pin power supply 12 VDC (P/N 7E05047A)
Detector 1		Detector 2	
Type	InGaAs photodiode, calibrated	Type	Fast InGaAs photodiode
Function	Average power	Function	Temporal pulse shape detection
Spectral Range μm	0.94 – 1.64	Spectral Range μm	0.94 – 1.64
Power Range	600nW – 3W	Rise Time (10% to 90%) nsec	0.8
Pulse Width	Not limited	Fall Time (90% to 10%) nsec	5
Pulse Repetition Rate ^(d)	Not limited	Bias Voltage Input V	9
Power Scales	3W to 3 μW	Typical CW Responsivity $\text{mA}/\text{W}^{(e)}$	0.14 @ 1100 - 1500nm
Power Accuracy	$\pm 3\%$ 940nm - 1100nm, $\pm 4\%$ 1100nm - 1640nm	Dark Current nA	1
Linearity with Power $\pm\%$	2	Noise Current $\text{fA}/\sqrt{\text{Hz}}$	15.5
Power Noise Level nW	30.	Output	Analog current
Saturation Pulse Energy mJ	1.3mJ		
Calibration Uncertainty nm	$\pm 2.4\%$ 940-1430 $\pm 2.6\%$ 1430-1600		
Output	Smart Head, D15		
Part number	7Z02493		

Notes:

(a) For central 2 mm diameter of entrance aperture
 (b) Power Accuracy and Sensitivity to Beam Size and Angle specifications apply to beam divergence up to $\pm 45^\circ$ and central 5.6 mm diameter of entrance aperture, for larger divergence and/or area of entrance aperture, these specifications increase by 2%
 (c) For scanned beams with divergence angle $< \pm 40^\circ$, the maximum acceptance angle of the sphere is $\pm 50^\circ$
 (d) Below 200Hz use low frequency mode in meter
 (e) Responsivity data provided with sensor



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