1.1.1.6 Integrating Spheres

1.1.1.6.2 VIS 1.5” High Speed Response, Multi-functional Integrating Sphere

400nW – 4W

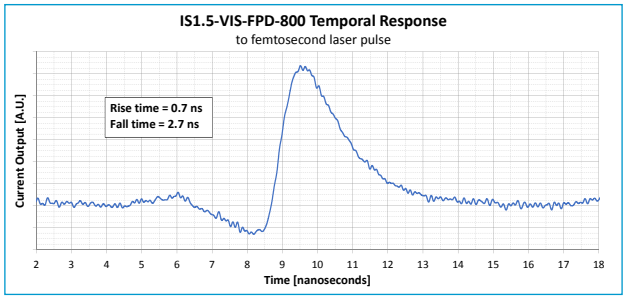
Features

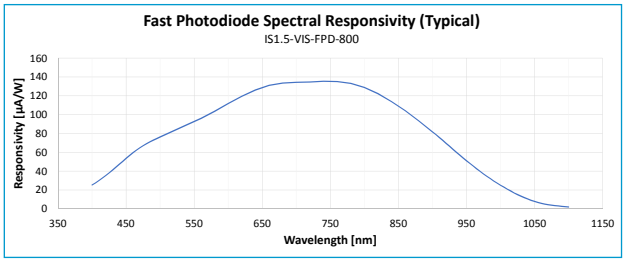
- Fast photodiode for pulse shape characterization of VCSELs
- Built in SMA fiber adapter for connection to a spectrometer
- Large, 20mm input port enabling long working distance
- Accepts beams with divergence angles up to ±60°
- Small integrating sphere with short time constant

IS1.5-VIS-FPD-800

Model	IS1.5-VIS-FPD-800		
Use	**Multi-functional Integrating Sphere**		
Specifications			
Input Port Aperture mm	Ø20	Cooling	Convection
Maximum Beam Divergence Degrees	±60 [a]	Operating Temperature Range °C	+15 to +40
Sensitivity to Beam Size and Angle	±2% [b], [c]	Storage Temperature Range °C	-20 to +60
Damage Threshold on Integrating Sphere Surface W/cm²	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 typ.	Weight g	530
Fiber Optic Port	SMA connector, maximum NA 0.44	Compliance	CE, UKCA, China RoHS
Outputs	Smart Head for power measurement, BNC (50Ω) 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	Si photodiode, calibrated	Type	Fast Si photodiode
Function	Average power	Function	Temporal pulse shape detection
Spectral Range µm	0.4 – 1.1	Spectral Range µm	0.4 – 1.1
Power Range	400nW – 4W	Rise Time (10% to 90%) nsec	0.8
Pulse Width	Not limited	Fall Time (90% to 10%) nsec	2.8
Pulse Repetition Rate [d]	Not limited	Bias Voltage Input V	12
Power Scales	4W to 40µW	Peak CW Responsivity @ 740nm µA/W [f]	135 typ.
Power Accuracy	±3% 430nm – 1000nm, ±4% < 430nm, ±7% >1000nm	Dark Current nA	0.3 typ., 1 max
Linearity with Power ±%	2	Noise Current fA/√Hz	18 typ.
Power Noise Level nW	20 typ.	Output	Analog current
Saturation Pulse Energy mJ	2 typ.		
Calibration Uncertainty ±%	1.1 430-1000nm [e]		
Output	Smart Head, D15		
Part number	**7Z02491**		

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 ±45° 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 < ±40°, the maximum acceptance angle of the sphere is ±50°
(d) Below 200Hz use low frequency mode in meter
(e) For calibration uncertainty of wavelengths outside of this range see table on page 25
(f) Responsivity data provided with sensor





IS1.5-VIS-FPD-800