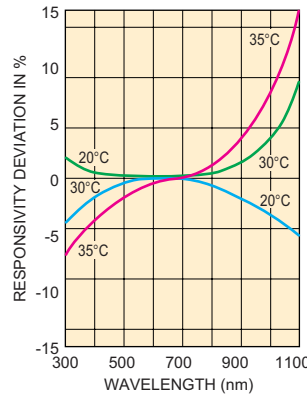
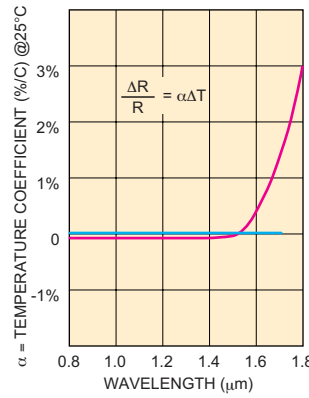


Linearity of photodiode response

818-UV
818-SL, 818-ST, 818-IS-1
818-IR, 818-IG

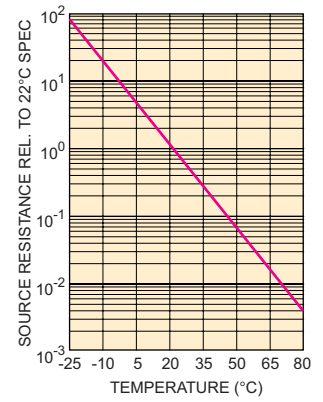


Temperature variation of response vs. wavelength for 818-UV, 818-SL, 818-ST



Temperature variation of response vs. wavelength

818-IG
818-IR



Relative shunt resistance vs. temperature

818 Series Detector Specifications

Model	818-UV	818-SL	818-F-SL	818-ST	818-IR	818-IG
Spectral Range (μm)	0.2–1.1	0.4–1.1	0.4–1.1	0.4–1.1	0.78–1.8	0.8–1.65
Power, Average Max w/ Attenuator (W/cm ²) ⁽¹⁾	0.2	2		2	2 ⁽⁷⁾	2
Power, Average Maximum w/o Attenuator (mW/cm ²) ⁽¹⁾	0.2	2	2	2	3	3
Pulse Energy, Maximum - w/ Attenuator (μJ/cm ²) ⁽²⁾	0.10	1		0.03	0.35	0.35
Pulse Energy, Maximum - w/o Attenuator (nJ/cm ²) ⁽²⁾	0.1	1	0.03	0.03	0.35	0.35
Calibration Uncertainty (Without Attenuator)	2% @ 200-390nm, 1% @ 391-940nm, 4% @ 941-1100nm	1% @ 400-940nm, 4% @ 941-1100nm	1% @ 400-940nm, 4% @ 941-1100nm	1% @ 400-940nm, 4% @ 941-1100nm	2% @ 780-1700nm, 4% @ 1701-1800nm	2% @ 800-1650nm
Calibration Uncertainty (With Attenuator)	8% @ 200-350nm, 2% @ 351-390nm, 1% @ 391-940nm, 4% @ 941-1100nm	1% @ 400-940nm, 4% @ 941-1100nm	1% @ 400-940nm, 4% @ 941-1100nm	1% @ 400-940nm, 4% @ 941-1100nm	5% @ 780-910nm, 2% @ 911-1700nm, 4% @ 1701-1800nm	5% @ 800-900nm, 2% @ 901-1650nm
Uniformity (%) ⁽⁶⁾	±2	±2	±2	±2	±2	±2
Linearity (%)	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5
Saturation Current (mA/cm ²)	0.05	4.6	2	8	400	250
Responsivity	≥0.09 A/W 250–1000 nm	>0.1 A/W 400–1000 nm	>0.1 A/W 400–1000 nm	>0.1 A/W 400–1000 nm	≥0.2 A/W 850–1700 nm	≥0.1 A/W 800–1600 nm
Responsivity (Peak)	>0.4 A/W	>0.5 A/W	>0.4 A/W	>0.5 A/W	>0.8 A/W	>0.9 A/W
Rise Time (μs)	≤2	≤2	≤1	≤3	≤2	≤2
Shunt Resistance (MΩ) (typ)	≥2	≥2	≥200	≥50	≥35	≥20
Die Capacitance (pF)	8,800	12,000	160	1,100	14 nF	1500
Reverse Bias, Maximum (V)	100	10	5	5	0.25	2
NEP (W/√Hz)	8.9 x 10 ⁻¹³	5.5 x 10 ⁻¹³	1.1 x 10 ⁻¹⁴	1.5 x 10 ⁻¹⁴	0.7 x 10 ⁻¹²	3.0 x 10 ⁻¹⁴
Material	Silicon	Silicon	Silicon	Silicon	Germanium	Indium Gallium Arsenide
Active Area (cm ²)	1	1	0.071	1	0.071	0.071
Active Diameter (cm)	1.13	1.13	0.3	1x1	0.3	0.3
Shape	Cylinder	Cylinder	Fiber Module	Wand	Cylinder ⁽⁷⁾ Fiber Module ⁽³⁾	Cylinder
Attenuator, OD2	Detachable	Detachable	N/A	Built-In	Detachable ⁽⁷⁾ Not Avail. ⁽³⁾	Detachable

- 1) Applies to entire spectral response
- 2) 15 ns pulse width
- 3) Applies to 818-F-IR
- 4) When measured with 1.0 mm diameter beam centered within 80% of active area
- 5) When measured with 3.0 mm diameter beam centered within 80% of active area
- 6) Uniformity specification applies to detector only
- 7) Not applicable to 818-F-IR
- 8) Accuracy decreases by ± 5 % when using detector with OD3 attenuator