



PD300-UAS

## 1.4.2.3 Standard Customized Solutions (OEM) Thermal and Photodiode Sensors

## 100pW to 3W

## **Features**

- Conduction cooled •
- Thermal sensors are spectrally flat •
- . Analog or RS232 output
- UAF version can give analog voltage output or digital RS232 • output and can measure power or energy. Can also have multiple switchable ranges and/or multiple switchable wavelengths
- Wide dynamic range, switchable ranges •
- Selectable wavelengths

These specifications refer to standard OEM sensors, and are to be understood as generic, describing sensor families.

Ophir will be happy to help you with a specific solution for your particular application.

3A-UAF

| Model   | 3A-UAF                                      | PD300-UAS  |
|---|---|--|
| Туре  | RS232 or Analog output                      | RS232 or Analog output   |
| Features  | Measures very low power, built in amplifier | Small size, built in amplifier, wide dynamic range, detector can be flush with top |
| Absorber Type                                   | Broadband                                   | Photodiode   |
| Spectral Range µm                               | 0.19 – 20 <sup>(c)</sup>                    | 0.2 – 1.1 <sup>(c)</sup>   |
| Aperture mm                                     | Ø9.5  | 10x10  |
| Maximum Power <sup>(a)</sup>                    | 3W  | Up to 50mW   |
| Power Mode                                      |   |  |
| Minimum Power                                   | 100µW                                       | As low as 100pW  |
| Power Noise Level                               | <8µW RMS <sup>(d)</sup>                     | As low as 1pW  |
| Thermal Drift (over 30 minutes)                 | <±10µW <sup>(d)</sup>                       |  |
| Maximum Average Power Density W/cm <sup>2</sup> | 1000  | ~ 50   |
| Response Time (0-95%), typ. (sec)               | 1.8   | 0.2  |
| Calibration Uncertainty                         | ±1.9%                                       | ±1.1% 430-1000nm <sup>(e)</sup>  |
| Power Accuracy ±% at Calibrated Wavelength      | 3   | 3  |
| Linearity with Power ±%                         | 1.5   | 1  |
| Amplifier Power Supply                          | +6V to +24V                                 | +6V to +24V  |
| Energy Mode                                     |   |  |
| Maximum Energy                                  | 2J  | NA   |
| Minimum Energy                                  | 20µJ  | NA   |
| Energy Accuracy ±% at calibrated wavelength     | 5   | NA   |
| Maximum Energy Density J/cm <sup>2</sup>        |   |  |
| <100ns  | 0.3   | NA   |
| 0.5ms   | 1   | NA   |
| 2ms   | 2   | NA   |
| 10ms  | 4   | NA   |
| Cooling   | Conduction                                  | Conduction   |
| Connections                                     | 6 pin Molex <sup>(b)</sup>                  | 6 pin Molex <sup>(b)</sup>   |
| Dimensions                                      | 50x50x38mm                                  | 38x38x32mm   |
| Compliance                                      | RoHS, China RoHS                            | RoHS, China RoHS   |
| Part number                                     | Consult Ophir Representative                | Consult Ophir Representative   |

(a) With analog "UAS" version, maximum power is also limited by maximum output voltage where output voltage is at most 2V less than input voltage. With analog "UAF" versions, sensor voltage output is accurate up to 2v below lowest level of supply voltage, taking into account supply voltage ripple (b) 6 pin Molex connections: RS232 input, Ground, +Voltage, Analog signal out, high/low voltage or switch input when used, RS232 output (c) Calibrated at customer selected wavelengths (d) In a quiet thermal environment with FOV limiting (e) For calibration uncertainty of wavelengths outside of this range see table on page 24 Notes

17 ±0.2

38±0.









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