

RjP-667 Silicon Energy Probe



- **Measure Energy per Pulse up to 2 kHz**
- **UV - Enhanced Response from 180 nm to 1.1 μm**
- **pJ Sensitivity**
- **Large, 1.0 cm^2 Active Area**

Measurement of low energy, high rep rate sources is no longer limited to average power - with the RjP-667 you can directly measure the integrated energy of each pulse in real time. This UV-Enhanced Silicon Energy probe is designed specifically for measuring low energy, pulsed sources from the near-UV to the near-IR. Picojoule sensitivity, 2 kHz speed, and a 1 cm^2 active area guarantee unmatched versatility and ease of use.

The RjP-667 can measure a number of pulsed lasers, including Nd:YAG, Nd:YLF, Ti:Sapphire, Nitrogen, Excimer, and Dye. The Probe works equally well with other sources, such as short pulse flashlamps, LEDs, and laser diodes.

Bioluminescence, laser induced fluorescence, and non-linear optics are a just few examples of the wide range of applications for the RjP-667. Mate the appropriate filter to the probe to isolate specific spectral regions, such as the UV-A / UV-B range for germicidal studies. Take advantage of its sensitivity in the near-IR to test Nd:YAG based LIDAR, tracking, and target rangefinder/designator systems.

Couple the RjP-667 with the Rm-6600 Dual-Channel Universal Radiometer and a pyroelectric energy probe to ratiometrically measure the transmission of laser goggles, filters, and attenuators over 6 decades of dynamic range.

The RjP-667 is calibrated for absolute energy measurement at 950 nm (the wavelength of peak spectral response). The typical wavelength response curve, normalized to 100% relative responsivity at 950 nm, is stored in the

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SPECIFICATIONS

Spectral response (see curve)	180 - 1100 nm
Maximum total energy (RjP-668)	250 (50) nJ
Maximum energy density	1.25 $\mu\text{J}/\text{cm}^2$
Max. peak pulse power density (30 ns pulse)	100 mW/cm^2
Max. average power density	5.0 mW/cm^2
Minimum detectable energy	500 fJ
Maximum pulse rep rate (RjP-668)	500 Hz (2 kHz)
Maximum pulse width (RjP-668)	50 (10) μs
Calibration accuracy	$\pm 5\%$
Linearity	$\pm 0.5\%$
Detector active area	10 mm x 10 mm (1.0 cm^2)
Full scale ranges	6; 3 pJ - 300 nJ
Probe dimensions (h x w x depth)	10.2 cm x 7.7 cm x 7.2 cm (4.0" x 3.0" x 2.8")
Probe Weight	0.5 kg (1.0 lb)

preamplifier. When a wavelength other than 950 nm is entered via the "Wavelength Select" function of the Universal Radiometers the appropriate wavelength correction factor is automatically applied, and the true energy displayed. Two absolute wavelength calibration options are available, UV (200 - 350 nm) and VIS-IR (350 - 1100 nm).

The RjP-667 is configured to measure up to 500 Hz, with a maximum pulse width of 50 μs . However, the preamplifier can be modified to measure up to 2 kHz, with a maximum pulse width of 10 μs . This version is given the model number RjP-668. Consult the factory for additional details.

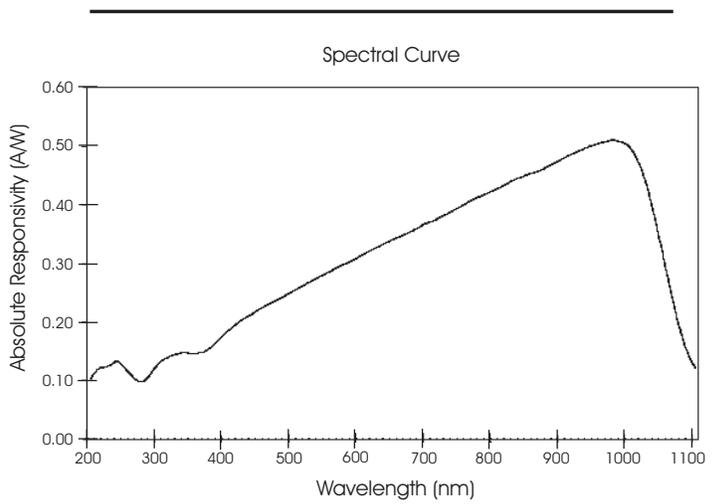
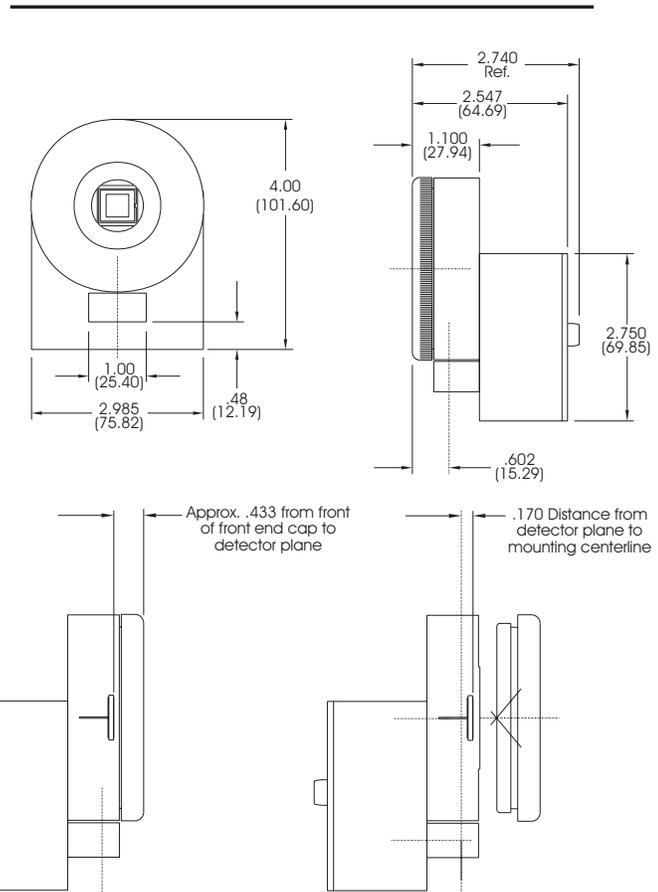
The RjP-600 Series probes have the detector assembly and preamplifier in a common housing. This minimizes the signal path between the detector and preamplifier and surrounds them with a continuous Faraday cage, giving optimal EMI/RFI immunity.

The front of the RjP-667 is threaded to accept accessories. A 25 mm diameter filter holder is included with the Probe. A standard 1/4-20 threading hole is provided for mounting the probe to an optics bench. The probe is black anodized to reduce unwanted back-reflection.

There are many options and accessories available for the RjP-600 Series probes, including various size filter holders, probe extension cables, and the kTA-141

support stand. These options and accessories are detailed in a separate data sheet.

All RjP-600 Series Probes are provided with a certificate of calibration showing traceability to the National Institute of Standards and Technology (NIST) and compliance with MIL-45662 and ANSI-Z540 Sections 7-18.



As a result of our ongoing commitment to product improvement specifications are subject to change without notice. REV 019801js