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Acton Research Corporation
SI-440-UV-P
UV Enhanced Silicon Detector

Ver 2.0

I. Description:

The Acton Research Corporation SI-440-UV-P Silicon Detector is a UV-visible-near IR detector for use in the wavelength range of 200 to 1050 nm. The detector element is UV enhanced silicon and it is operated in the photovoltaic (unbiased) mode for good signal to noise performance. The output of the detector is positive current. The SI-440-UV-P Silicon Detector is directly compatible with the Acton Research Corporation SpectraSense Data Acquisition software and NCL Electronic Interface system. The pre-amplification for the SI-440-UV-P is located in the NCL to allow computer selection of gain.

II. Installation:

The Acton Research Corporation SI-440-UV-P Silicon Detector attaches directly to the exit slit assembly of all Acton Research Corporation SpectraPro monochromators. Make sure the red dot on the detector housing is located on top and mount the detector with the four cap screws provided. Attach the BNC cable assembly provided from the BNC connector on the detector to the Channel 1 or Channel 2 input of the NCL. In the SpectraSense software, select Hardware Configuration, click on Detection, and select Silicon Diode Current (+/-) in channel setup. Refer to the SpectraSense and NCL manuals for additional information.

III. Specifications:

(Typical at 22° C)

Active area:	100mm ²
Active Diameter:	0.444 inches
Responsivity @ 254nm:	0.1 min, 0.14 typ A/W
Junction Capacitance @ 0 volts	4500 pf
Shunt resistance:	10 M
NEP:	2.5×10^{-13} (w/Hz ^{1/2})
Rise time:	5.9 μsec
Saturation current:	0.2 mA

The curve with the solid line in figure 1 on the following page shows the typical spectral response of the SI-440 detector.

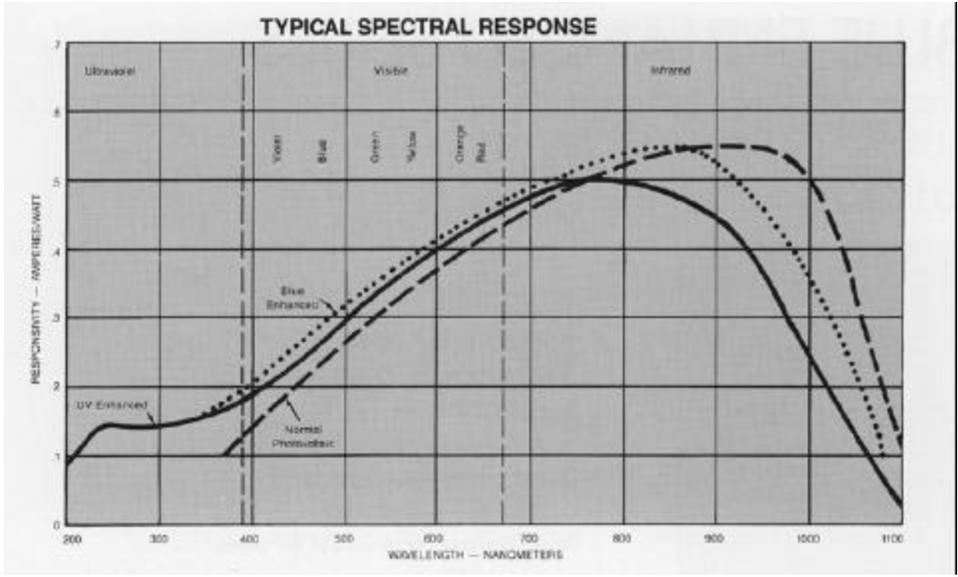


Figure 1. Spectral Response of SI-440
(solid line)