DATA SHEET PSS-WS-7.56

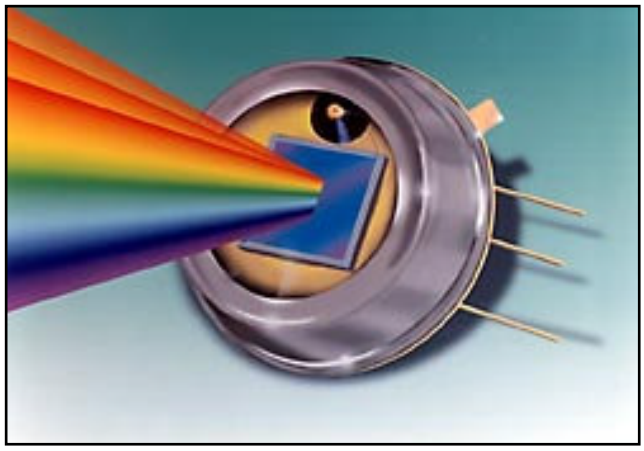
WAVELENGTH SENSOR PSS WS-7.56

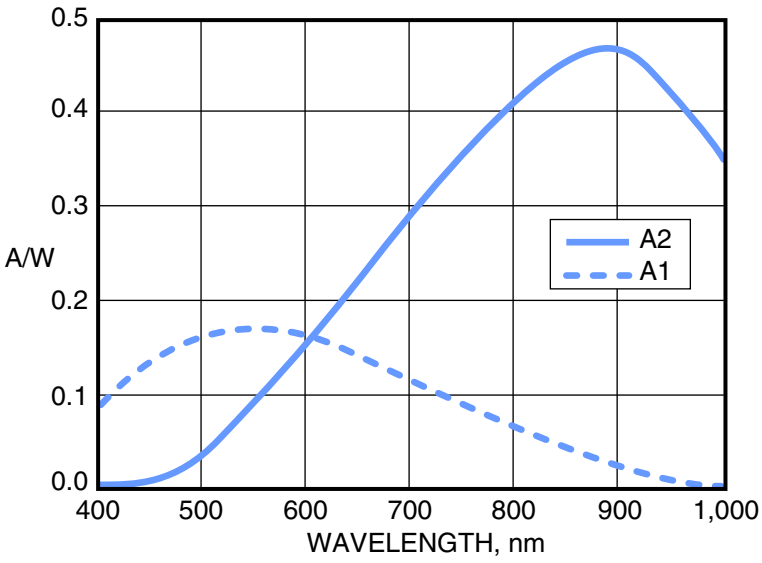
SPECIAL CHARACTERISTICS

- **Two p-n junctions constructed vertically**
- **Operating range: 450 - 950 nm**
- **Spectral resolution: 0.01 nm**
- **Specially for monochromatic light**

PARAMETERS

Part No.	PSS WS-7.56
Active Area	7.56 mm2 2.75 x 2.75 mm2
Operating Range	450 - 950 nm
Spectral Resolution	0.01 nm
Bias Voltage U_R	Max. 5V
Saturation Level	Max. 150 µW (0V) Max. 3 mW (5V)
Dark Current I_{R0} @ E = 0lx, U_R = 5V	Max. 100 nA Typ. 10 nA
Spectral Responsivity Diode 1 @ 550 nm	Typ. 0.2 A/W
Spectral Responsivity Diode 2 @ 890 nm	Typ. 0.45 A/W
Junction Capacitance C_j Diode 1 @ 0V	Typ. 1 nF
Junction Capacitance C_j Diode 2 @ 0V	Typ. 0.1 nF
Rise Time t_r Diode 1 @ 0V, 1kΩ	Typ. 10 ns
Rise Time t_r Diode 2 @ 0V, 1kΩ	Typ. 1 ns
Quotient Q Depending on U_{Bias} @ λ = 635 nm	In case of short circuit typ. 5 nm/V
Temperature Coefficient of Quotient Q @ λ = 635 nm, 0V	In case of short circuit typ. 1 nm/K
Operating Temperature	–20 ... +55°C
Storage Temperature	–40 ... +100°C
Shunt Resistance @ U_R = 10 mV **Diode 1** **Diode 2**	 Ca. 2 GΩ Ca. 100 MΩ





SPECTRAL RESPONSIVITY (A/W)

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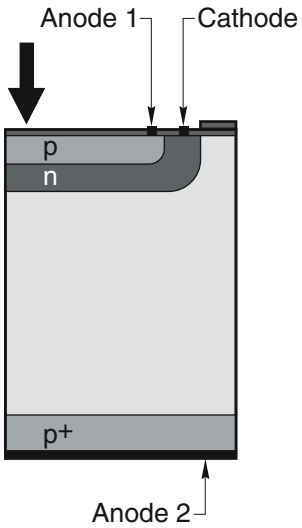
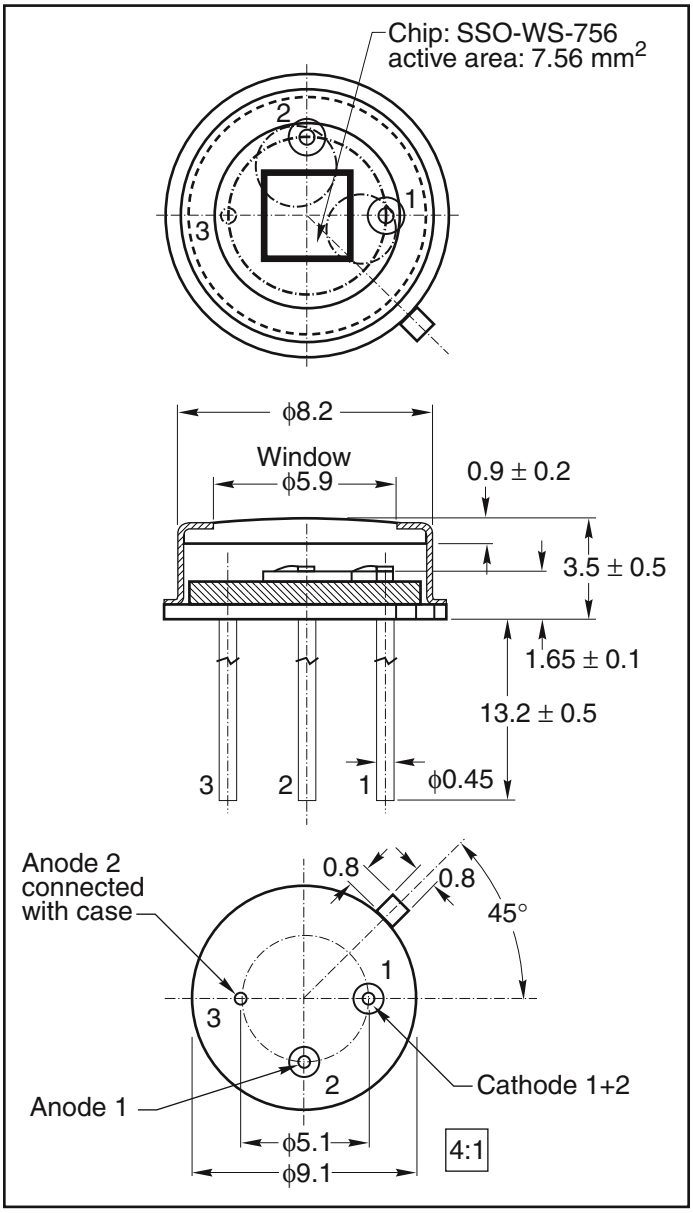
DATA SHEET PSS-WS-7.56

WAVELENGTH SENSOR PSS WS-7.56

SPECIAL CHARACTERISTICS

The SSO-WS-7.56 Wavelength Sensor has two p-n junctions constructed vertically on a common silicon substrate. The upper diode has enhanced blue and the lower enhanced red response. Absorbed radiation between 450 and 900 nm thus generates two photocurrents proportional to the wavelength of the incident light. The quotient of the signals is independent of light level up to the saturation point. The wavelength of monochromatic light or the spectral density peak of polychromatic light can therefore be determined.

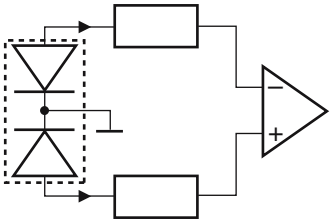




PACKAGE 3 (TO5)

APPLICATION TIPS

During photovoltaic operation (U_R = 0V) an intensity unindependence for Q (quotient of both the photo currents) is to expect for a radiation up to 150 µW. This range can be increased up to 3 mW when operating with bias voltage (U_R = max. 5V). A possible application circuit is shown.



HANDLING PRECAUTIONS

Soldering temperature	260°C for max. 10s. The device must be protected against solder flux vapour!
ESD - protection	Only small danger for the device. Standard precautionary measures are sufficient.
Storage	Store devices in conductive foam.

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