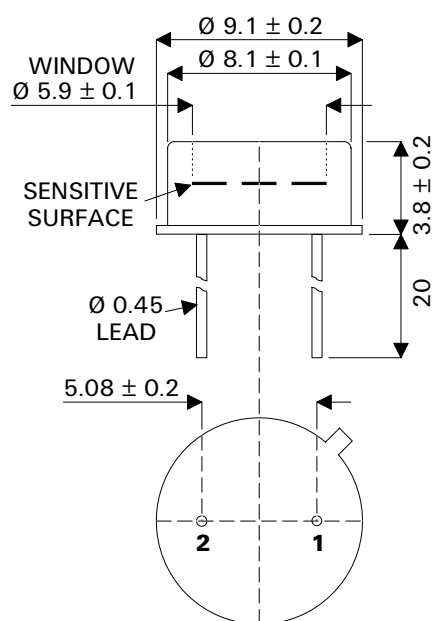


## MECHANICAL DATA

Dimensions in mm.



### TO-39 Package

Pin 1 – Anode

Pin 2 – Cathode & Case

## P.I.N. PHOTODIODE

### FEATURES

- ASYMMETRIC VIEWING ANGLES
- EXCELLENT LINEARITY
- LOW NOISE
- WIDEST SPECTRAL RESPONSE
- ENHANCED UV SENSITIVITY
- LOW LEAKAGE CURRENT
- LOW CAPACITANCE
- INTEGRAL OPTICAL FILTER OPTION note 1
- TO39 HERMETIC METAL CAN PACKAGE
- EMI SCREENING MESH AVAILABLE

**Note 1 Contact Semelab Plc for filter options**

### DESCRIPTION

The SMP525G-EK is a Silicon P.I.N. photodiode incorporated in a hermetic metal can package. The package window has greater ultra-violet light transmission, thus extending the useful spectral range of the device. The electrical terminations are via two leads of diameter 0.018" on pitch of 0.2". The cathode of the photodiode is electrically connected to the package.

The photodiode active area provides asymmetric viewing angles in two orthogonal directions. The photodiode structure has been optimised for high sensitivity, asymmetric light measurement applications across the infra-red to ultra-violet spectrum. Inclusion of a suitable optical filter into the package can produce a device that responds only to ultra-violet light. The metal can and optional screening mesh ensure a rugged device with a high degree of immunity to radiated electrical interference.

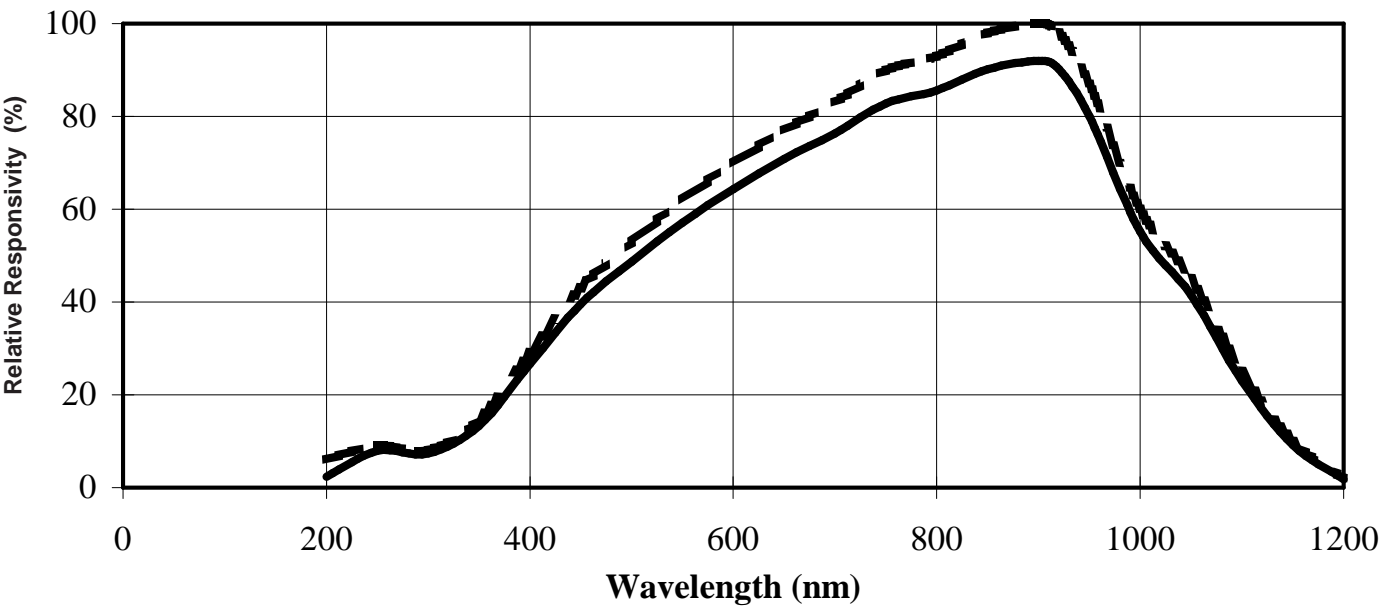
### ABSOLUTE MAXIMUM RATINGS ( $T_{case} = 25^{\circ}C$ unless otherwise stated)

Operating temperature range	-40°C to +70°C
Storage temperature range	-45°C to +80°C
Temperature coefficient of responsivity	0.35% per °C
Temperature coefficient of dark current	x2 per 8°C rise
Reverse breakdown voltage	60V

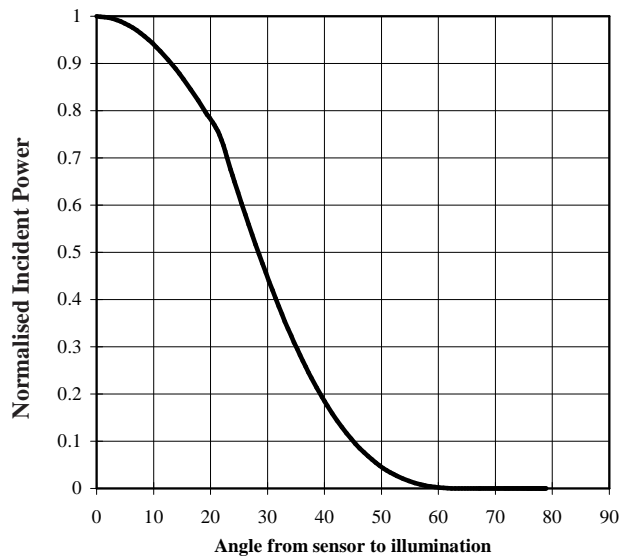
## CHARACTERISTICS (T<sub>amb</sub>=25°C unless otherwise stated)

Characteristic	Test Conditions.	Min.	Typ.	Max.	Units
Responsively	$\lambda$ at 900nm	0.45	0.55		A/W
Active Area			2.05		mm <sup>2</sup>
Dark Current	E = 0 Dark    1V Reverse		0.25	4	nA
	E = 0 Dark    10V Reverse		4	10	
Breakdown Voltage	E = 0 Dark    10 $\mu$ A Reverse	60	80		V
Capacitance	E = 0 Dark    0V Reverse		45		pF
	E = 0 Dark    20V Reverse		6		
Rise Time	30V Reverse 50 $\Omega$				ns
NEP	900nm			0.45	W/ $\sqrt$ Hz

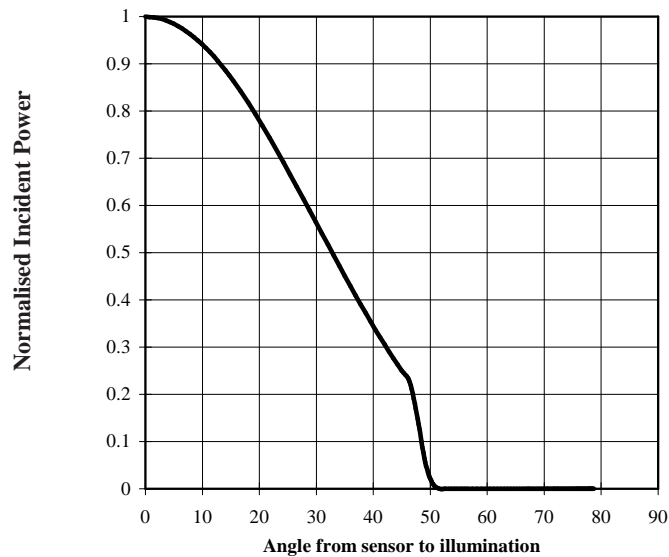
Spectral Response



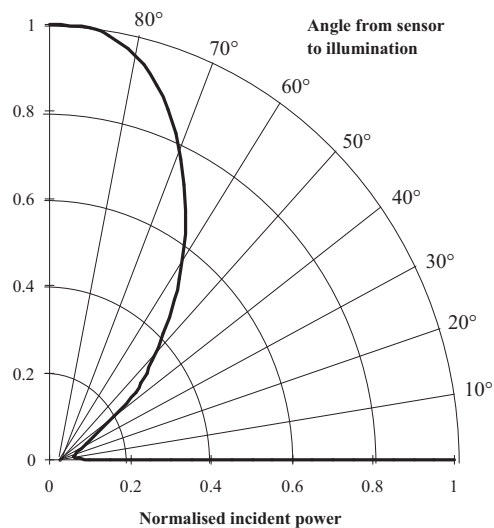
Directional Characteristics



Directional Characteristics



Directional characteristics



Directional characteristics

