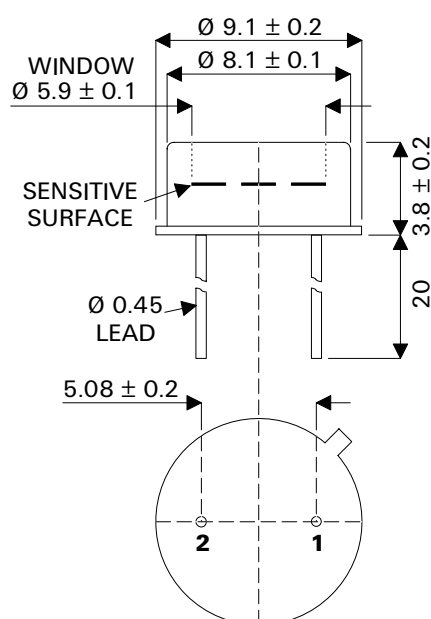


## MECHANICAL DATA

Dimensions in mm.



### TO-39 Package

Pin 1 – Anode

Pin 2 – Cathode & Case

## P.I.N. PHOTODIODE

### FEATURES

- 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 SMP550G-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 larger photodiode active area provides greater sensitivity than the SMP400 range of devices, with a corresponding reduction in speed. The photodiode structure has been optimised for high sensitivity, 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.

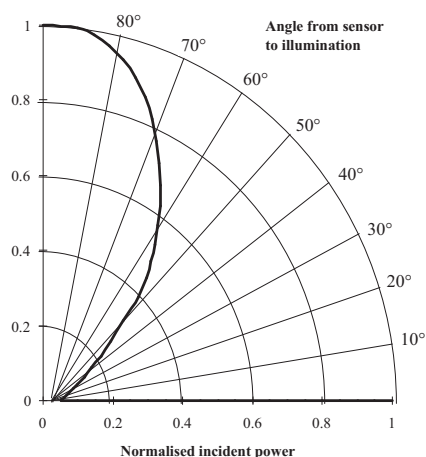
### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C unless otherwise stated)

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

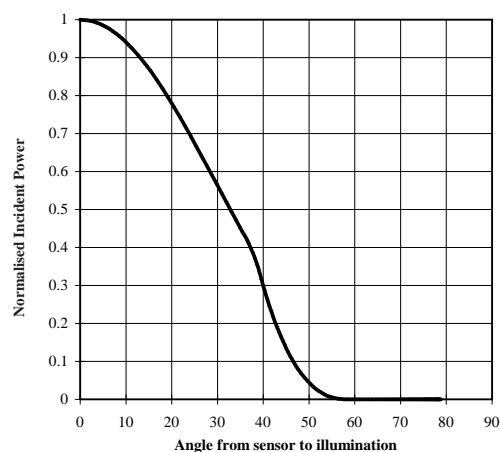
## CHARACTERISTICS (T<sub>amb</sub>=25°C unless otherwise stated)

Characteristic	Test Conditions.	Min.	Typ.	Max.	Units
Responsivity	$\lambda$ at 900nm	0.45	0.55		A/W
Active Area			5.19		mm <sup>2</sup>
Dark Current	E = 0 Dark 1V Reverse		2	4	nA
	E = 0 Dark 10V Reverse		16	22	
Breakdown Voltage	E = 0 Dark 10 $\mu$ A Reverse	60	80		V
Capacitance	E = 0 Dark 0V Reverse		55		pF
	E = 0 Dark 20V Reverse		10		
Rise Time	30V Reverse 50 $\Omega$		9		ns
NEP	900nm		19x10 <sup>-14</sup>	0.45	W/ $\sqrt$ Hz

Directional characteristics



Directional Characteristics



Spectral Response

