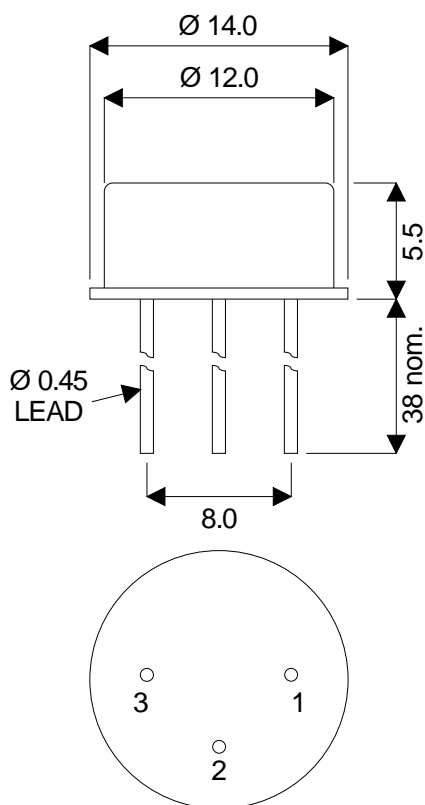


## MECHANICAL DATA

Dimensions in mm.



### TO8 Small

Pin 1 – Anode

Pin 2 – Cathode

Pin 3 –Case

## P.I.N. PHOTODIODE

### FEATURES

- HIGH SENSITIVITY
- PHOTODIODE ISOLATED FROM PACKAGE
- EXCELLENT LINEARITY
- LOW NOISE
- WIDE SPECTRAL RESPONSE
- INTEGRAL OPTICAL FILTER OPTION **note 1**
- TO8 HERMETIC METAL CAN PACKAGE
- EMI SCREENING MESH AVAILABLE

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

### DESCRIPTION

The SMP690G-KPS is a Silicon P.I.N. photodiode incorporated in a hermetic metal can package. The electrical terminations are via two leads of diameter 0.018" on a pitch centre diameter of 0.2". The photodiode is electrically isolated from the package, which has a separate earth lead.

The larger photodiode active area provides greater sensitivity than the SMP600 range of devices, with a corresponding reduction in speed. The photodiode structure has been optimised for high sensitivity, light measurement applications. The metal can, isolated photodiode and optional screening mesh ensure a rugged device with a high degree of immunity to conducted and radiated electrical interference.

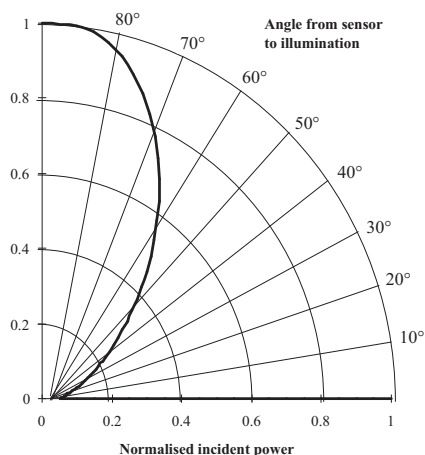
## ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C unless otherwise stated)

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

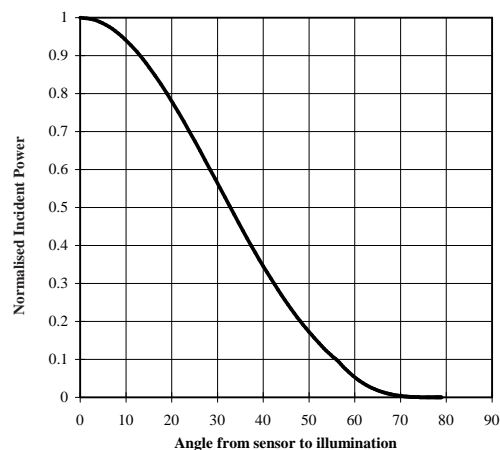
## CHARACTERISTICS (T<sub>amb</sub>=25°C unless otherwise stated)

Characteristic	Test Conditions.	Min.	Typ.	Max.	Units
Responsivity	$\lambda$ at 900nm	0.45	0.55		A/W
Active Area			15		mm <sup>2</sup>
Dark Current	E = 0 Dark 1V Reverse		2	6	nA
	E = 0 Dark 10V Reverse				
Breakdown Voltage	E = 0 Dark 10 $\mu$ A Reverse	60	80		V
Capacitance	E = 0 Dark 0V Reverse		90		pF
	E = 0 Dark 20V Reverse		25		
Rise Time	30V Reverse 50 $\Omega$		12		ns
NEP	900nm		20x10 <sup>-14</sup>	0.45	W/ $\sqrt$ Hz

Directional characteristics



Directional Characteristics



Spectral Response

