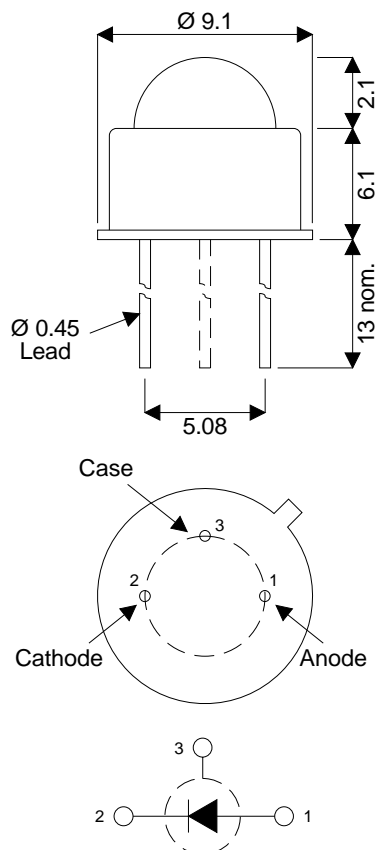


## MECHANICAL DATA

Dimensions in mm.



### TO-39 Package

Pin 1 – Anode      Pin 2 – Cathode      Pin 3 – Case

## P.I.N. PHOTODIODE

### FEATURES

- HIGH SENSITIVITY
- WIDE RECEIVING ANGLE
- PHOTODIODE ISOLATED FROM PACKAGE
- EXCELLENT LINEARITY
- LOW NOISE
- WIDE SPECTRAL RESPONSE
- WIDE INTRINSIC BANDWIDTH
- 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 SMP600G-FN is a Silicon P.I.N. photodiode incorporated in a lensed, 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 SMP550 range of devices, with a slight reduction in speed. Inherent in the device geometry is a wide receiving angle. The photodiode structure has been optimised for high sensitivity, light measurement applications. The narrow viewing angles provide better coupling to on-axis illumination sources. 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 responsivity	0.35% per °C
Temperature coefficient of dark current	x2 per 8°C rise
Reverse breakdown voltage	60V

**CHARACTERISTICS** ( $T_{amb}=25^{\circ}\text{C}$  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/ $\sqrt{\text{Hz}}$

