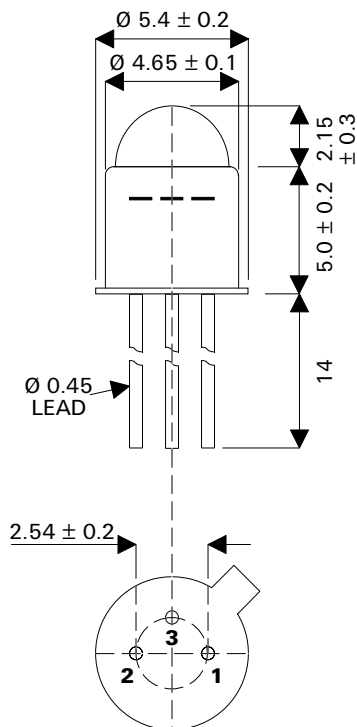


## MECHANICAL DATA

Dimensions in mm.



### TO-18 Package

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

## P.I.N. PHOTODIODE

### FEATURES

- NARROW RECEIVING ANGLE
- PHOTODIODE ISOLATED FROM PACKAGE
- EXCELLENT LINEARITY
- LOW NOISE
- WIDE SPECTRAL RESPONSE
- WIDE INTRINSIC BANDWIDTH
- LOW LEAKAGE CURRENT
- LOW CAPACITANCE
- INTEGRAL OPTICAL FILTER OPTION **note 1**
- TO18 HERMETIC METAL CAN PACKAGE
- EMI SCREENING MESH AVAILABLE

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

### DESCRIPTION

The SMP400G-CC is a Silicon P.I.N. photodiode incorporated in a compact, lensed, hermetic metal can package. The electrical terminations are via three leads of diameter 0.008" on a pitch centre diameter of 0.1". The photodiode is electrically isolated from the package, which has a separate earth lead.

The photodiode structure has been optimised for high sensitivity, high speed light measurement applications. The narrow viewing angle provides 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			0.62		mm <sup>2</sup>
Dark Current	E = 0 Dark 1V Reverse		0.1	1.0	nA
	E = 0 Dark 10V Reverse		0.5	2.5	
Breakdown Voltage	E = 0 Dark 10 $\mu$ A Reverse	60	80		V
Capacitance	E = 0 Dark 0V Reverse		8	12	pF
	E = 0 Dark 20V Reverse		1.5	2.5	
Rise Time	30V Reverse 50 $\Omega$		4		ns
NEP	900nm		7.2	0.45	W/ $\sqrt{\text{Hz}}$

