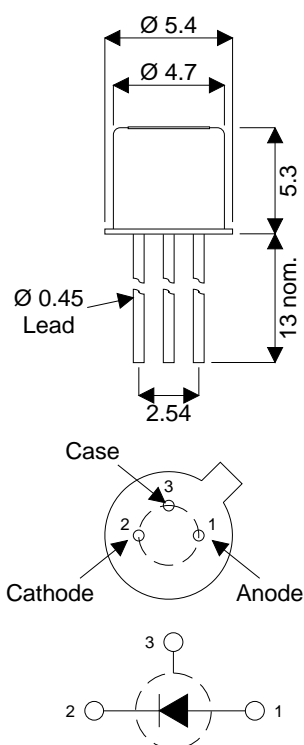


MECHANICAL DATA

Dimensions in mm.

**TO-18 Package**

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

P.I.N. PHOTODIODE**FEATURES**

- EXCELLENT LINEARITY
- LOW NOISE
- PHOTODIODE ISOLATED FROM PACKAGE
- 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-CD is a Silicon P.I.N. photodiode incorporated in a compact, hermetic metal can package. The electrical terminations are via three leads of diameter 0.008" on a pitch centre diameter of 0.1". The taller can structure affords a greater range of optical filter options. 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 moderate viewing angle facilitates easy alignment of the device with 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.

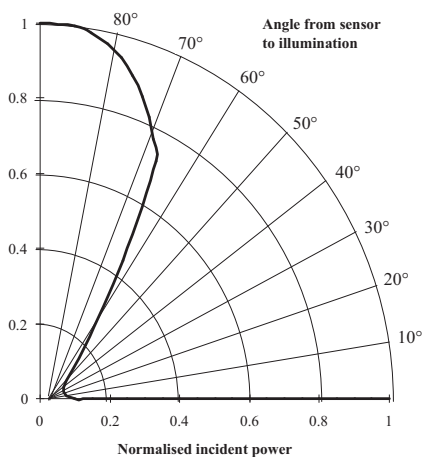
ABSOLUTE MAXIMUM RATINGS ($T_{\text{case}} = 25^{\circ}\text{C}$ unless otherwise stated)

| | |
|---|-----------------|
| 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 |

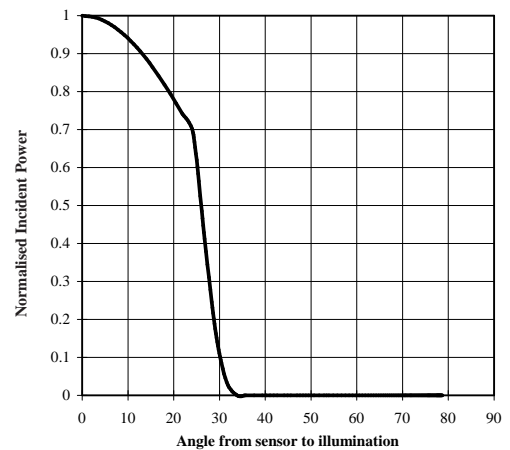
CHARACTERISTICS (T_{amb}=25°C unless otherwise stated)

| Characteristic | Test Conditions. | Min. | Typ. | Max. | Units |
|-------------------|-------------------------------|------|------|------|-----------------|
| Responsivity | λ at 900nm | 0.45 | 0.55 | | A/W |
| Active Area | | | 0.62 | | mm ² |
| 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 μ 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 Ω | | 4 | | ns |
| NEP | 900nm | | 7.2 | 0.4 | W/ \sqrt Hz |

Directional characteristics



Directional Characteristics



Spectral Response

