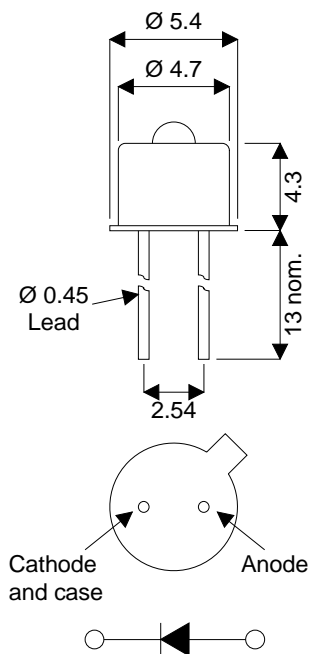


## MECHANICAL DATA

Dimensions in mm.



### TO-18 Package

Pin 1 – Anode

Pin 2 – Cathode & Case

## P.I.N. PHOTODIODE

### FEATURES

- LARGE NUMERICAL APERTURE FOR EASE OF COUPLING TO FIBRE OPTIC CABLES
- LOW NOISE
- WIDE INTRINSIC BANDWIDTH
- EXCELLENT LINEARITY
- LOW LEAKAGE CURRENT
- LOW CAPACITANCE
- TO-46 HERMETIC METAL CAN PACKAGE

### DESCRIPTION

The SMP400G- is a Silicon P.I.N. photodiode specifically designed for optical fibre communication. The device is incorporated in a compact, low profile, hermetic metal can package.

A glass bead lens incorporated into the TO-46 case provides an efficient optical design. This affords substantial miss-alignment between the device and a fibre optic cable without degrading the coupling efficiency.

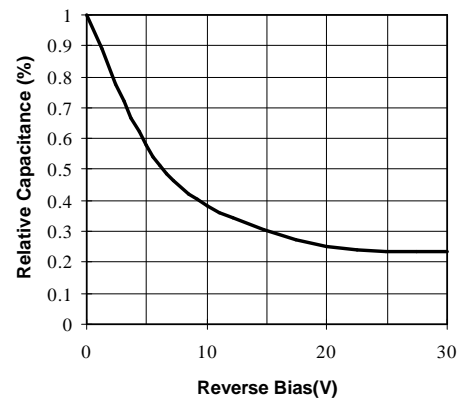
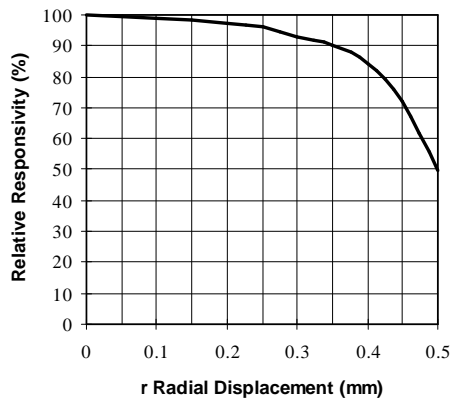
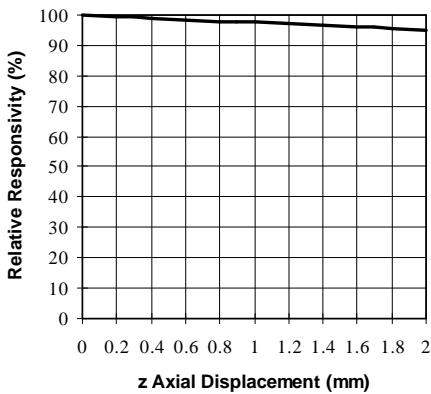
The electrical terminations are via two leads of diameter 0.02" on a pitch of 0.1". The cathode and case connections are electrically connected.

### 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       |                               |      | 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<br>50 $\Omega$    |      | 4    |      | ns              |
| NEP               | 900nm                         |      | 7.2  | 0.45 | W/ $\sqrt$ Hz   |



### Spectral Response

