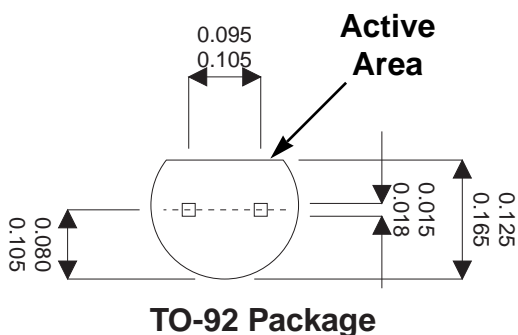
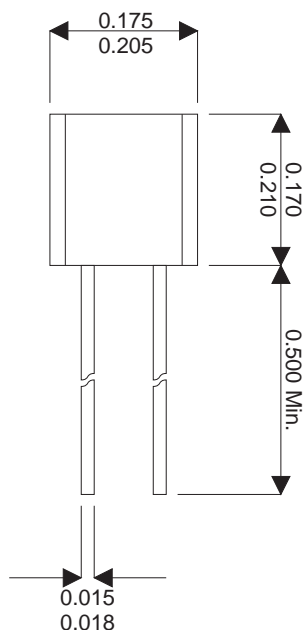


**MECHANICAL DATA**

Dimensions in inches.

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

- BLACK PLASTIC ENCAPSULATED PACKAGE
- 0.1" (2.54mm) LEAD SPACING
- BUILT IN FILTER
- HIGH REJECTION TO VISUAL LIGHT
- LOW DARK CURRENT

**DESCRIPTION**

The SMP400G-X5 is a silicon PIN photodiode which is incorporated in a black plastic package which simultaneously serves as a filter and is also transparent for infra-red emission. The terminals are solder tabs with 0.1" (2.54mm) spacing. Due to its design the diode can be assembled vertically on PC board.

Arrays can be realised by multiple arrangements. This versatile photo detector can be used as a diode as well as a voltage cell.

The signal / noise ratio is particularly favourable, even at low illuminances.

The PIN photodiode is outstanding for low junction capacitance, high cut off frequency and short switching time. It is particularly suitable for IR sound transmission and remote control.

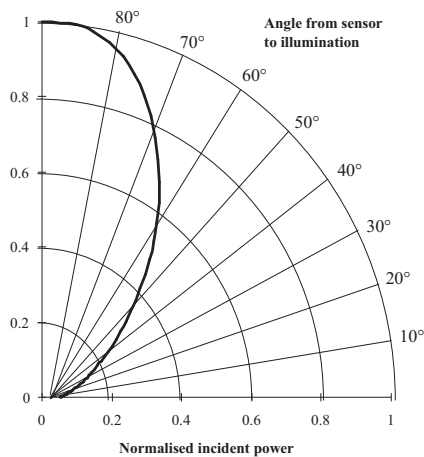
**ABSOLUTE MAXIMUM RATINGS** ( $T_{case} = 25^{\circ}C$  unless otherwise stated)

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

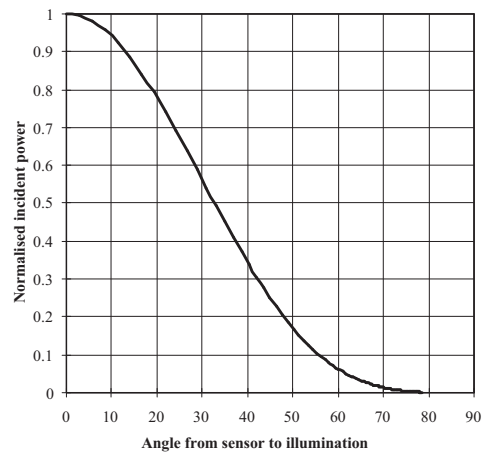
## CHARACTERISTICS (T<sub>amb</sub>=25°C unless otherwise stated)

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 50 $\Omega$		4		ns
NEP	900nm		7.2		W/ $\sqrt$ Hz

Directional characteristics



Directional Characteristics



Spectral Response

