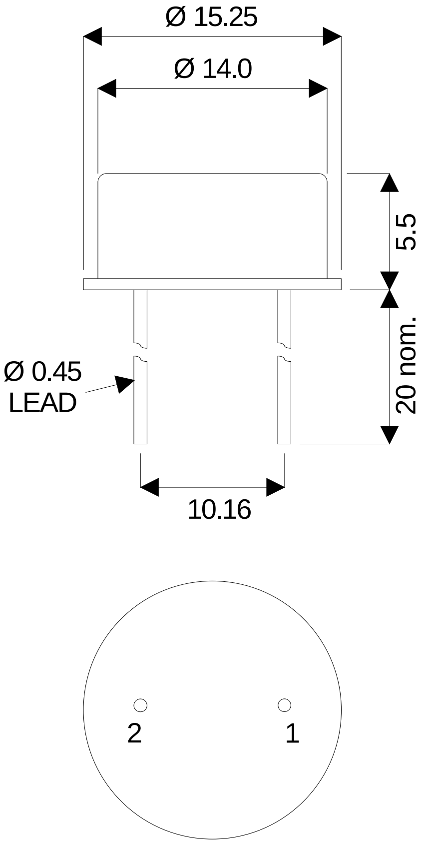
SMP1000G-JQ

MECHANICAL DATA
Dimensions in mm.



Standard TO-8

Pin 1 – Anode

Pin 2 – Cathode & Case

P.I.N. PHOTODIODE

FEATURES

- **HIGH SENSITIVITY**
- **EXCELLENT LINEARITY**
- **LOW NOISE**
- **WIDEST SPECTRAL RESPONSE**
- **ENHANCED UV SENSITIVITY**
- **INTEGRAL OPTICAL FILTER OPTION note 1**
- **TO8 HERMETIC METAL CAN PACKAGE**
- **EMI SCREENING MESH AVAILABLE**

Note 1 Contact Semelab Plc for filter options

DESCRIPTION

The SMP1000G-JQ is a large Silicon P.I.N. photodiode incorporated in a hermetic metal can package. The package window has greater ultra-violet light transmission, thus extending the useful spectral range of the device. The electrical terminations are via two leads of diameter 0.018" on pitch of 0.2". The cathode of the photodiode is electrically connected to the package.

The larger photodiode active area provides greater sensitivity than the SMP900 range of devices, with a corresponding reduction in speed. The photodiode structure has been optimised for high sensitivity, light measurement applications across the infra-red to ultra-violet spectrum. Inclusion of a suitable optical filter into the package can produce a device that responds only to ultra-violet light. The metal can and optional screening mesh ensure a rugged device with a high degree of immunity to radiated electrical interference.

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

Operating temperature range	-40°C to +70°C
Storage temperature range	-45°C to +80°C
Temperature coefficient of responsively	0.35% per °C
Temperature coefficient of dark current	x2 per 8°C rise
Reverse breakdown voltage	60V

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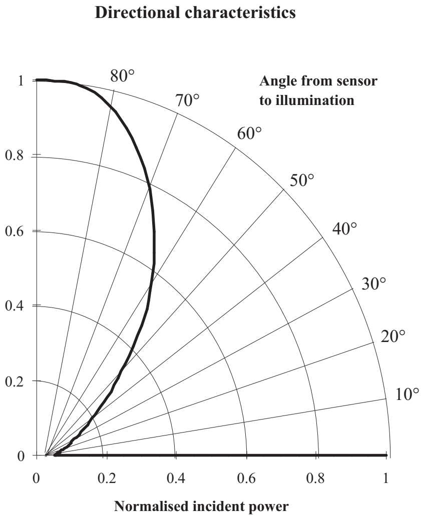
CHARACTERISTICS (T_{amb}=25°C unless otherwise stated)

Characteristic	Test Conditions.		Min.	Typ.	Max.	Units
Responsively	λ at 900nm		0.45	0.55		A/W
Active Area				76.85		mm^2
Dark Current	E = 0 Dark	1V Reverse		8	9	nA
	E = 0 Dark	10V Reverse		16	38	
Breakdown Voltage	E = 0 Dark	10μA Reverse	60	80		V
Capacitance	E = 0 Dark	0V Reverse		800	735	pF
	E = 0 Dark	20V Reverse		150		
Rise Time	30V Reverse 50Ω			16		ns
NEP	900nm			28x10^{-14}	0.45	W/√Hz


Directional characteristics