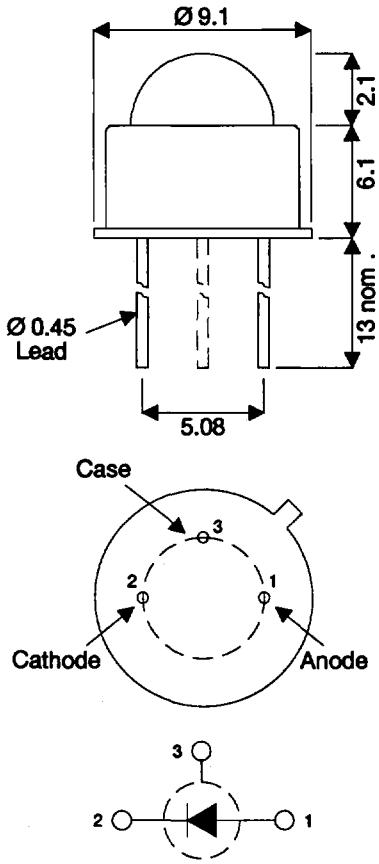
SMP550G-FN

P.I.N. PHOTODIODE

MECHANICAL DATA
Dimensions in mm.



TO-39 Package

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

FEATURES

- NARROW RECEIVING ANGLES
- 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
- TO39 HERMETIC METAL CAN PACKAGE
- EMI SCREENING MESH AVAILABLE

Note 1 Contact Semelab Plc for filter options

DESCRIPTION

The SMP550G-FN is a Silicon P.I.N. photodiode incorporated in a lensed, hermetic metal can package. The electrical terminations are via two leads of diameter 0.018" on a pitch centre diameter of 0.2". The photodiode is electrically isolated from the package, which has a separate earth lead.

The larger photodiode active area provides greater sensitivity than the SMP400 range of devices, with a corresponding reduction in speed. The photodiode structure has been optimised for high sensitivity, light measurement applications. The narrow viewing angles provide 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_{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			5.19		mm²
Dark Current	E = 0 Dark 1V Reverse		2	4	nA
	E = 0 Dark 10V Reverse		16	22	
Breakdown Voltage	E = 0 Dark 10µA Reverse	60	80		V
Capacitance	E = 0 Dark 0V Reverse		55		pF
	E = 0 Dark 20V Reverse		10		
Rise Time	30V Reverse 50Ω		9		ns
NEP	900nm		$19x10^{-14}$	0.45	W/√Hz