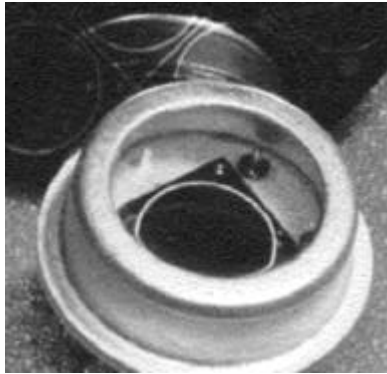


N-TYPE SILICON PIN PHOTODIODE FD80N



PIN photodiode FD80N is optimized for detection of radiation at 900nm. A photodiode illuminated by visible and near infrared light behaves as a current source with photocurrent proportional to the power of detected radiation. Reverse bias increases parallel internal resistance and decreases capacity of diode. Decrease of capacity and of load resistance R_L decreases response time. Low capacity with relatively low bias is achieved by using extremely pure, high resistance silicon for the base I-region of the diode ($> 2 \text{ k}\Omega\text{cm}$). Background radiation flux increases noise current, thus filters or darkening are recommended to decrease this radiation.

FEATURES

- Peak responsivity at 900nm
- Large area
- Fast response
- Wide spectral range
- Linearity over wide spectral range
- High reliability
- Selection upon request
- Fast delivery

APPLICATIONS

- Precision light meters
- Flow monitoring
- Alarm systems
- Inspection and control
- Flame and exhaust monitoring
- Optical encoding
- Event counting

SPECIFICATIONS

- Ambient temperature 25°C, DC reverse operating voltage

Parameter	typical	min	max	Per request, up to	Note
Breakdown voltage (V)	200	100		>300	1 μ A
Dark current (nA)	30		100	<12	
Responsivity at 900 nm (A/W)	0.6	0.5		0.65	
Responsivity at 1060 nm (A/W)	0.20	0.1		0.25	
NEP at 900nm ($\times 10^{-12}$ W/Hz ^{1/2})	5		20	3	
NEP at 1060nm ($\times 10^{-12}$ W/Hz ^{1/2})	20		100	12	
Capacitance (pF)	60		80	<58	1 MHz
Approx. full angle for totally illuminated active area ($^{\circ}$)	46				The values are dependent on dimensional tolerances of the package
Approx. full angle for partially illuminated active area ($^{\circ}$)	123				The values are dependent on dimensional tolerances of the package
Response time (ns)	10			8	900 nm, R=50 Ω , 10%-90%
Active area (mm ²)	80				

