Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Silicon Photodiode in Top-View PLCC-2 Package

OP980

Features:

- Wide acceptance angle, 100°
- Fast response time
- Linear response vs Irradiance
- Plastic leadless chip carrier (PLCC-2)
- Low Capacitance
- Top Sensing Area
- Tape and reel packaging
- Moisture Sensitivity Level: MSL2 or >

Description:

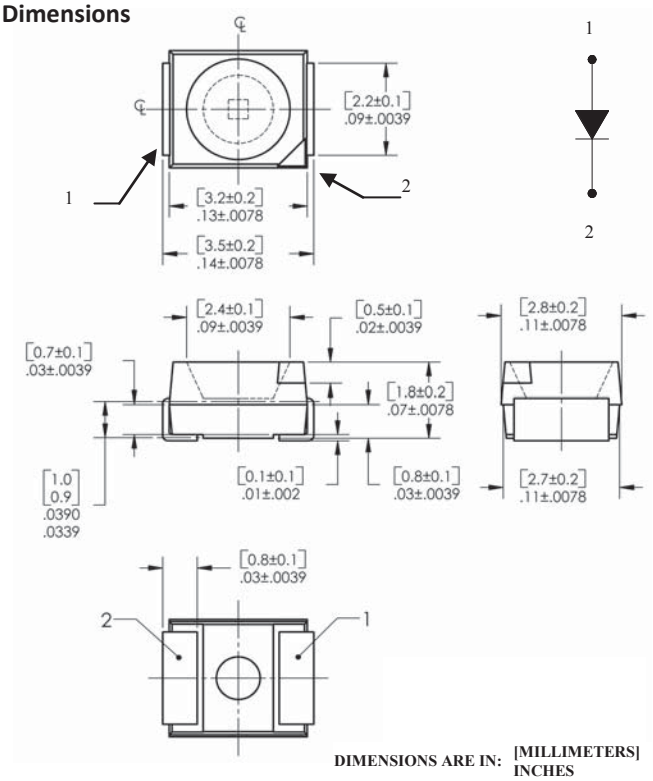
The **OP980** is a high speed, low-noise and high sensitivity PIN silicon photodiode mounted in a miniature SMD package. The device has a flat window lens, which enables a wide acceptance angle at 100°. Due to its clear lens, the OP980 responds to visible and near infrared light. It is packaged in a plastic leadless chip carrier that is compatible with most automated pick and place mounting equipment. *The OP980 is mechanically and spectrally matched to the OP280 and OP180 infrared LED.*

Applications:

- Non-contact position sensing
- Datum detection
- Computer peripherals
- Smoke detectors
- Touch Sensors
- Machine automation
- Optical encoders
- Reflective sensors
- Counters and sorters
- Miniature optical switches

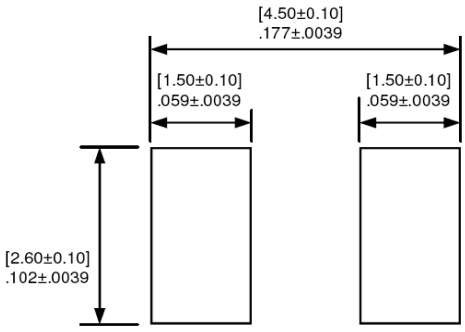
Ordering Information		
Part Number	**Sensor**	**Viewing Angle**
OP980	Photodiode	100°

Package Outline Dimensions



DIMENSIONS ARE IN: [MILLIMETERS] INCHES

Recommended Solder Patterns



Pin #	Transistor
1	Anode
2	Cathode

RoHS

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Silicon Photodiode in Top-View PLCC-2 Package

OP980

Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)	
Storage Temperature Range	-40° C to +100° C
Operating Temperature Range	-25° C to +85° C
Lead Soldering Temperature	260° C[1]

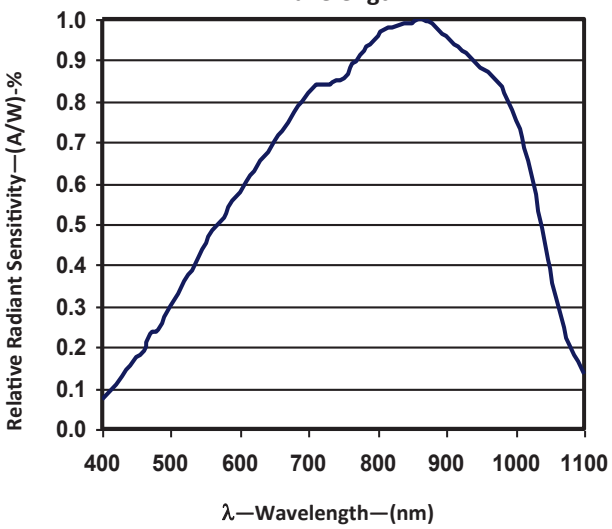
Electrical Characteristics (T_A = 25° C unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
I_L	Light Current	0.5	-	-	µA	V_R = 5.0 V, E_E = 1.0 mW/cm^2[3]
I_D	Dark Current	-	-	60	nA	V_R = 30.0 V, E_E = 0.0 mW/cm^2[3]
$VR_{(BR)}$	Reverse Breakdown Voltage	60	-	-	V	I_R = 10 µA
V_F	Forward Voltage	-	-	1.2	V	I_F = 1 mA, Ee = 0.0 mW/cm^2
λ_{pk}	Peak Sensitivity Wavelength	-	890	-	nm	V_R = 5.0
tr	Rise Time	-	50	-	ns	V_R = 5.0, R_L = 1k
tf	Fall Time	-	50	-	ns	V_R = 5.0, R_L = 1k

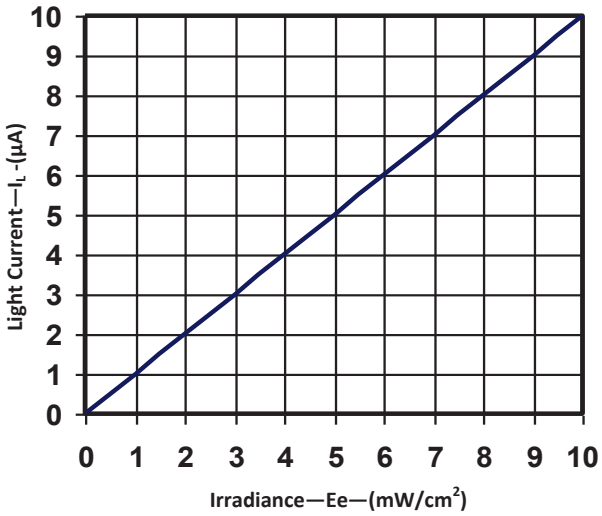
Notes:
1. Solder time less than 5 seconds at temperature extreme.
2. Derate linearly at 1.33 mW/° C above 25° C.
3. $E_{e(APT)}$ is an unfiltered GaAlAs LED with peak emission wavelength of 890nm. The measurement of the apertured radiant incidence upon a sensing area 0.081" (2.06mm) in diameter, perpendicular to and centered on the mechanical axis of the lens, and 0.590" (14.99mm) from the measurement surface. Measurement surface will be considered the tip of the top-view lens. $E_{e(APT)}$ is not necessarily uniform within the measured area.

Electrical Characteristic Performance Curves

Spectral Responsivity vs. Wavelength— l



Typical Light Current—I_L vs. Irradiance – Ee



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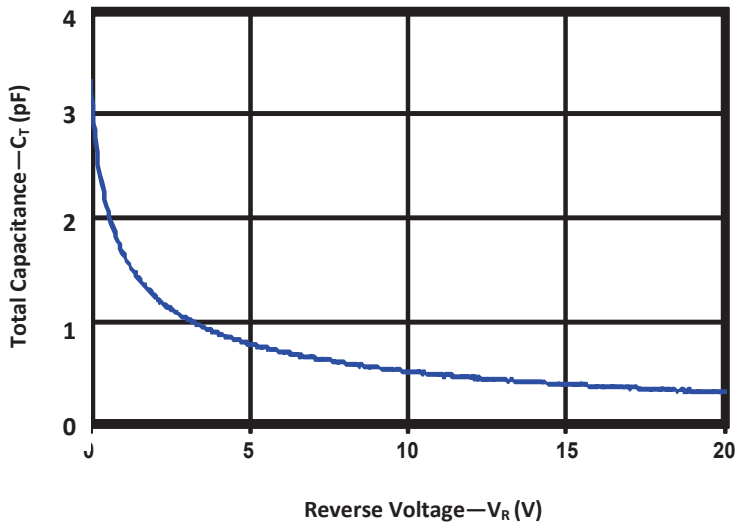
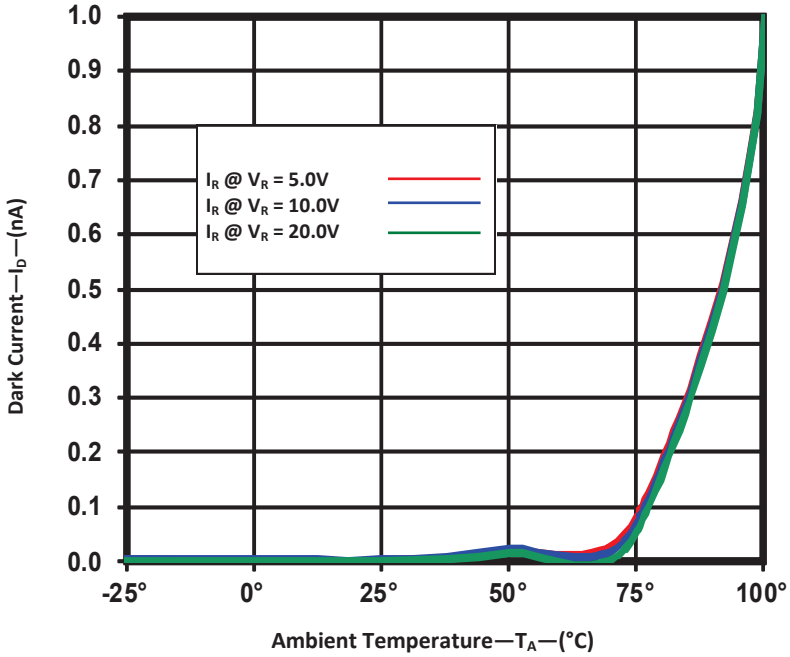
More Typical Performance Curves

Total Capacitance—C_T (pF) vs. Reverse Bias Voltage—V_R (V)



Dark Current—I_D vs. Irradiance



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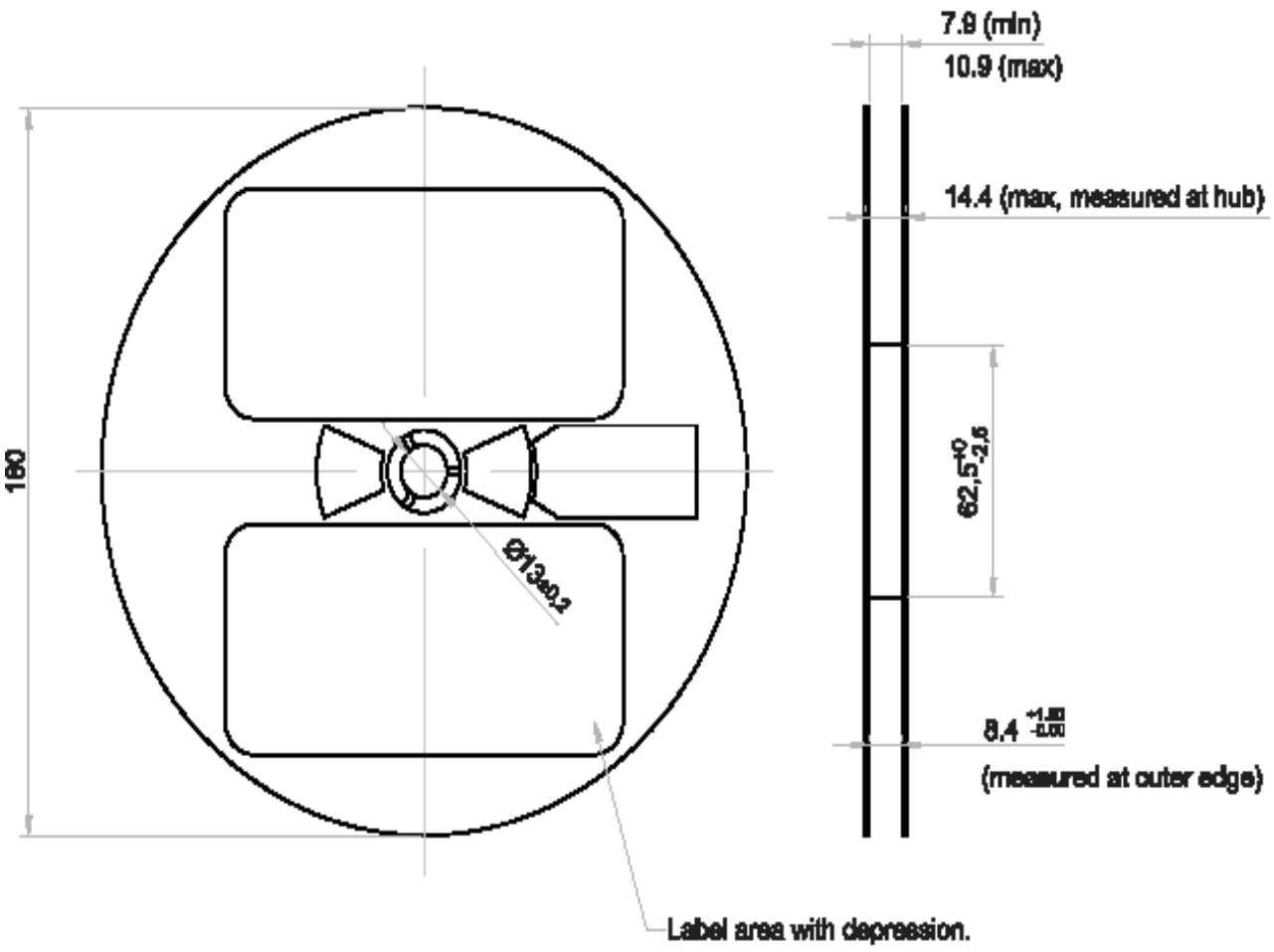
Packaging

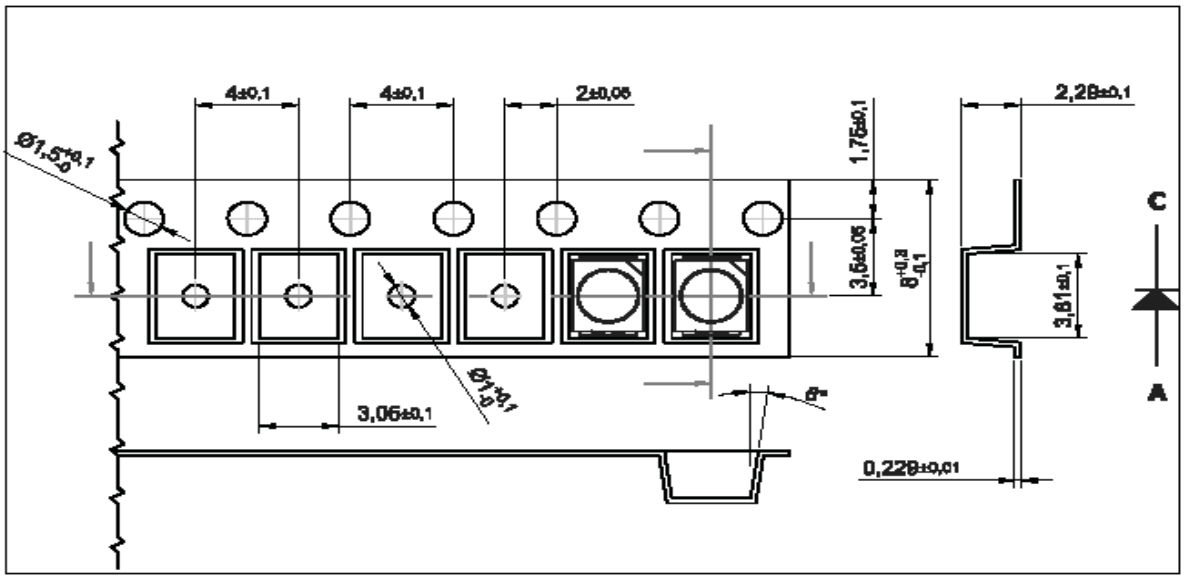
Reel Packaging Dimensions



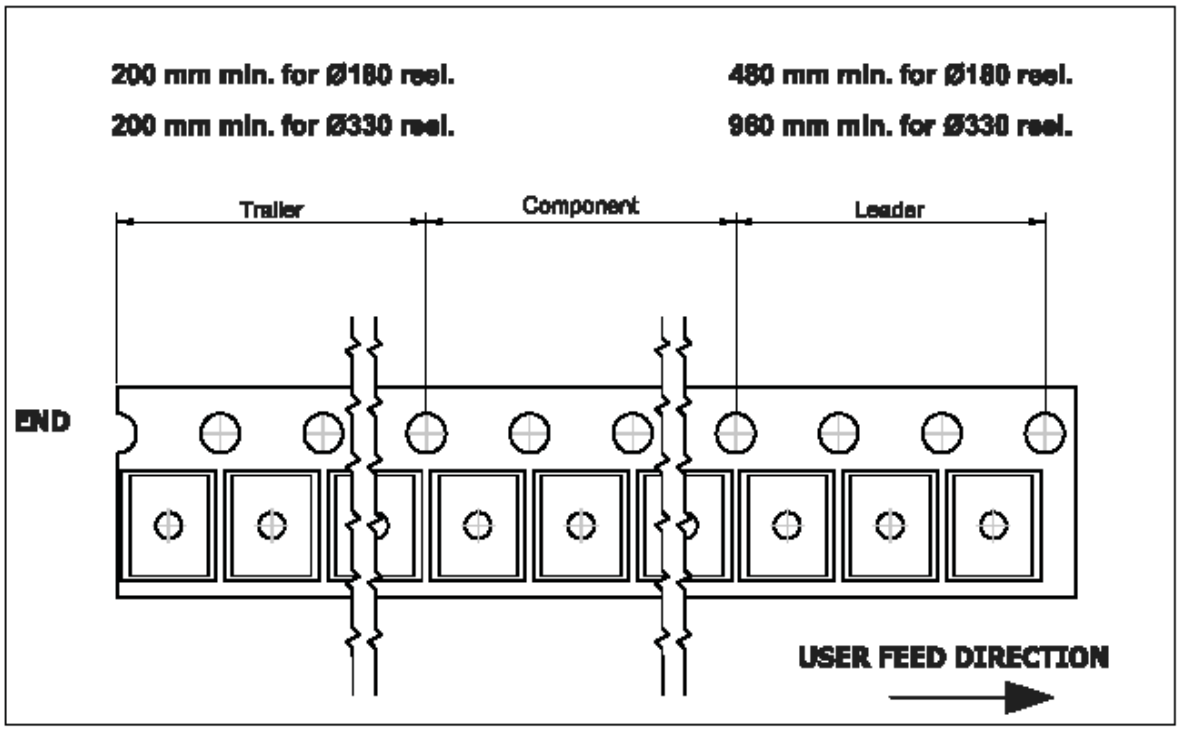
Dimensions are in: mm
Tolerance: ±0.01

Taping and Orientation

- Reels come in quantity of 2000 units.
- Reel diameter is 180mm.



Tape Feed Direction



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