

# ULTRA LOW NOISE PIN PHOTODIODES

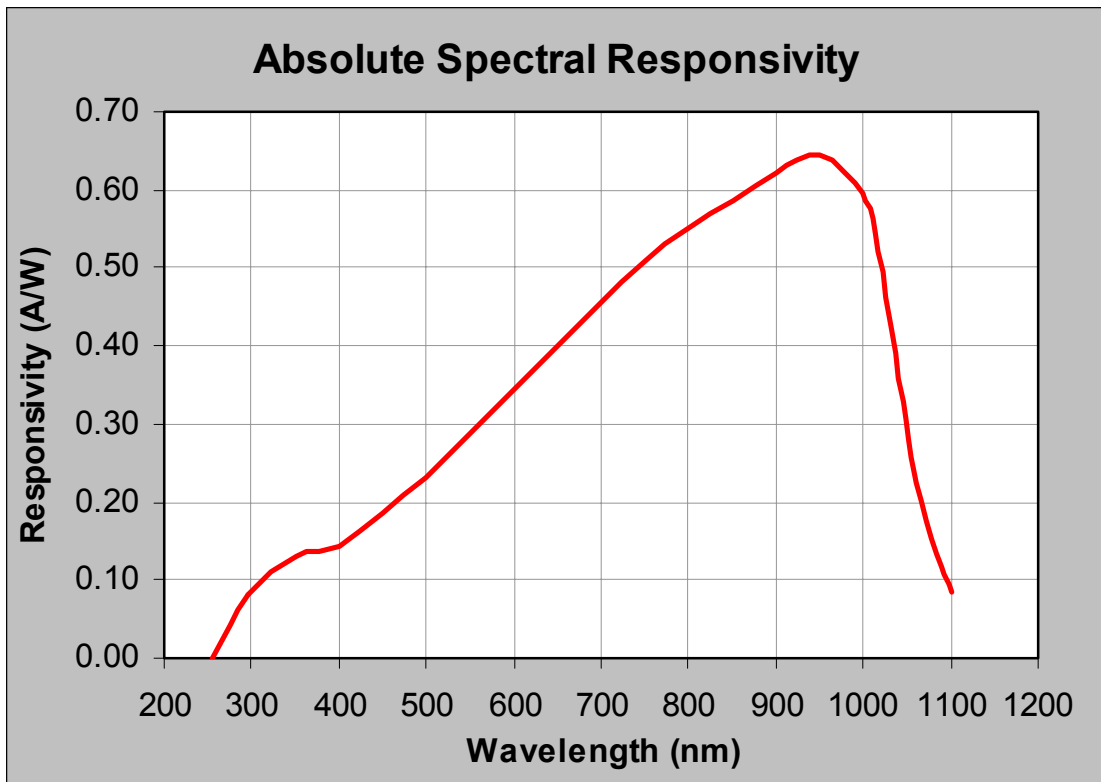
## SPECIFICATIONS

Responsivity: 0.32 A/W min., 0.38 A/W typ. @ 632.8nm; 0.50 A/W min., 0.62 A/W typ. @ 900nm

Part Number	Total Area (mm <sup>2</sup> )	Active Area (in)	Shunt Resistance <sup>1</sup> Min. (MΩ)	Dark Current <sup>1</sup> at 5V		Breakdown Voltage <sup>2</sup> at 10μA Typ. (V)	Capacitance <sup>3</sup> Typ.		NEP <sup>4</sup> Typ. (W/√Hz)	Max Linear Current <sup>5</sup> Typ. (mA)	Response Time <sup>6</sup> at 5V Typ. (ns)
				Typ. (nA)	Max. (nA)		at 0V (pF)	at 5V (pF)			
SD 057-14-21-011	1.67	0.051 x 0.051	1600	0.1	0.5	50	28	9	1.0x10 <sup>-14</sup>	0.17	10
SD 076-14-21-011 isolated -211	2.91	0.105 x 0.043	900	0.2	0.9	50	50	15	1.4x10 <sup>-14</sup>	0.29	11
SD 100-14-21-021 isolated -221	5.1	0.100 (dia.)	600	0.3	1.6	50	87	26	1.8x10 <sup>-14</sup>	0.51	15
SD 172-14-21-021 isolated -221	15	0.185 x 0.125	200	1.0	5.0	50	255	76	3.0x10 <sup>-14</sup>	1.5	30
SD 200-14-21-041 isolated -241	20.3	0.200 (dia.)	140	1.3	6.5	50	345	102	3.8x10 <sup>-14</sup>	2.03	45
SD 290-14-21-041 isolated -241	42.6	0.300 x 0.220	65	2.5	13	50	725	217	5.6x10 <sup>-14</sup>	4.76	70
SD 445-14-21-305	100	0.394 x 0.394	30	6.0	30	50	1700	500	8.6x10 <sup>-14</sup>	10.0	200

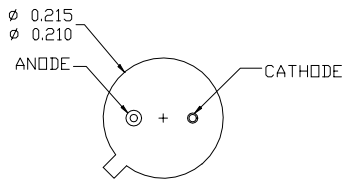
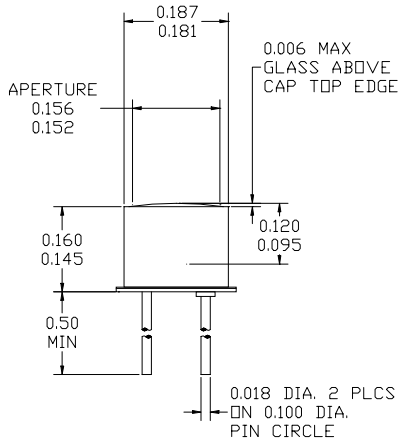
\* All values at 23°C

- Dark Current and Shunt Resistance vary with temperature as follows; for T≠23°C,  $I_{DT} = I_{D23} * 1.09^{\Delta T}$ ,  $R_{SHT} = R_{SH23} * 0.9^{\Delta T}$ , where  $\Delta T = (T - 23)$  and  $I_{D23}$  and  $R_{SH23}$  are values at 23°C.
- Typical values listed. Minimum value shall be 50% of typical.
- Typical values listed. Maximum value shall be 20% higher than the typical.
- Test conditions are  $V_B = -5V$ , and 950 nm.
- In photovoltaic mode. Maximum linear current specifies the level at which the output current characteristic deviates more than 10% from the straight line. The short circuit current saturates at approximately 10 times this level.
- Response Time (transition time between 10% and 90% of the output signal amplitude) measured at 670 nm with a 50Ω load. Shorter wavelengths will result in faster rise and fall times.
- Storage and Operating Temperature Range for all photodiodes is -40°C to 110°C, except for the SD 445-14-21-305, which is -20°C to 75°C.

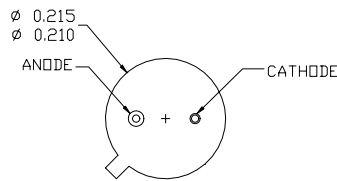
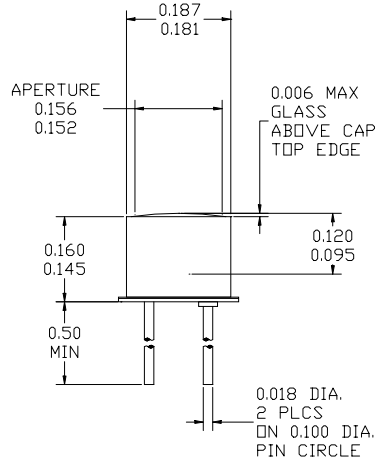


# Dimensional Outlines

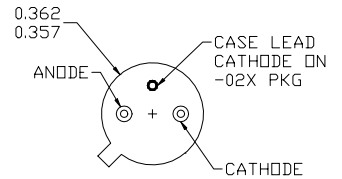
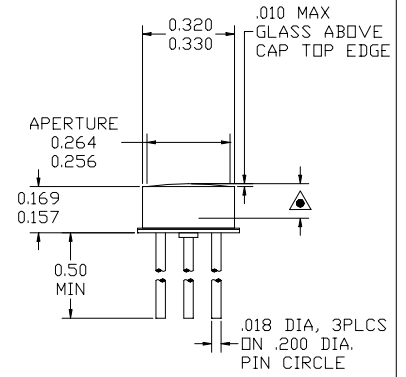
**SD 057-14-21-011**  
**SD 076-14-21-011**



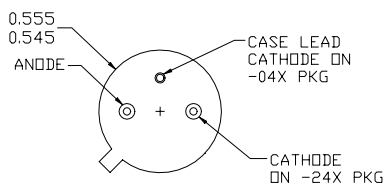
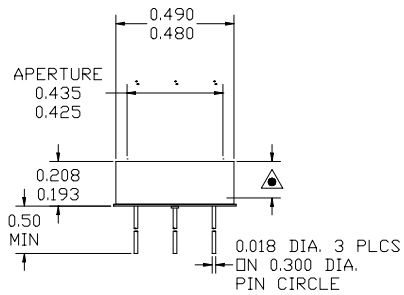
**SD 076-14-21-211**



**SD 100-14-21-021** .111  
 .095  
**SD 100-14-21-221** .098  
 .078  
**SD 172-14-21-021** .111  
 .095  
**SD 172-14-21-221** .098  
 .078



**SD 200-14-21-041** .136  
 .095  
**SD 200-14-21-241** .111  
 .115  
**SD 290-14-21-041** .136  
 .095  
**SD 290-14-21-241** .111  
 .115



**SD 445-14-21-305**

