

BLUE ENHANCED PIN PHOTODIODES

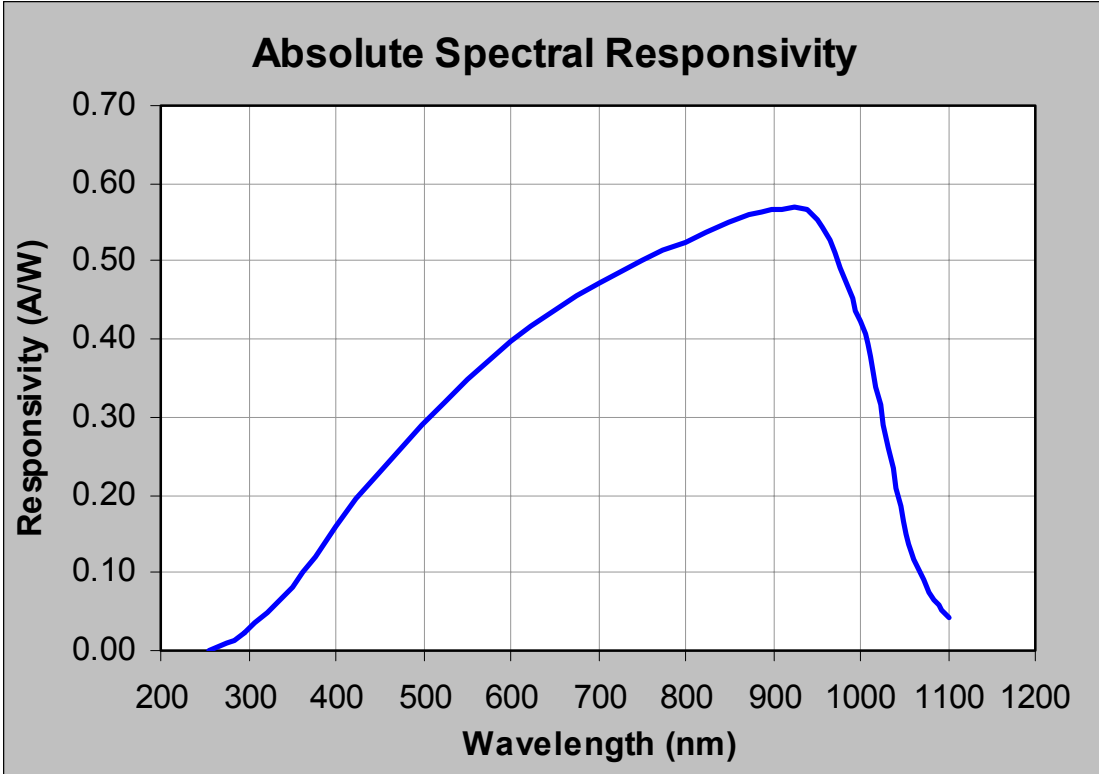
SPECIFICATIONS

Responsivity: 0.20 A/W min., 0.23 A/W typ. @ 450nm

| Part Number | Total Area (mm ²) | Active Area (in) | Shunt Resistance ¹ Min. (MΩ) | Dark Current ¹ at 5V | | Breakdown Voltage ² at 10μA Typ. (V) | Capacitance ³ Typ. | | NEP ⁴ Typ. (W/√Hz) | Max Linear Current ⁵ Typ. (mA) | Response Time ⁶ at 5V Typ. (ns) |
|-----------------------------------|----------------------------------|---------------------|---|------------------------------------|--------------|--|----------------------------------|---------------|-------------------------------------|---|---|
| | | | | Typ. (nA) | Max. (nA) | | at 0V (pF) | at 5V (pF) | | | |
| SD 041-12-22-011 isolated -211 | 0.85 | 0.040 x 0.033 | 1500 | 0.3 | 1.0 | 50 | 14 | 5 | 1.7x10 ⁻¹⁴ | 0.09 | 5 |
| SD 076-12-22-011 isolated -211 | 2.91 | 0.105 x 0.043 | 450 | 0.9 | 3.5 | 50 | 50 | 15 | 3.6x10 ⁻¹⁴ | 0.29 | 11 |
| SD 100-12-22-021 isolated -221 | 5.1 | 0.100 (dia.) | 300 | 1.6 | 6.4 | 50 | 87 | 26 | 4.2x10 ⁻¹⁴ | 0.51 | 15 |
| SD 172-12-22-021 isolated -221 | 15 | 0.185 x 0.125 | 100 | 5.0 | 20 | 50 | 255 | 75 | 6.4x10 ⁻¹⁴ | 1.5 | 30 |
| SD 200-12-22-041 isolated -241 | 20.3 | 0.200 (dia.) | 70 | 6.5 | 26 | 50 | 345 | 102 | 8.9x10 ⁻¹⁴ | 2.03 | 45 |
| SD 290-12-22-041 isolated -241 | 42.6 | 0.300 x 0.220 | 35 | 13 | 52 | 50 | 725 | 213 | 1.2x10 ⁻¹³ | 4.26 | 70 |
| SD 445-12-22-305 | 100 | 0.394 x 0.394 | 15 | 30 | 120 | 50 | 1700 | 500 | 1.9x10 ⁻¹³ | 10.0 | 200 |

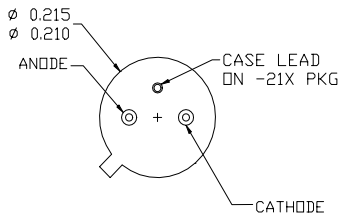
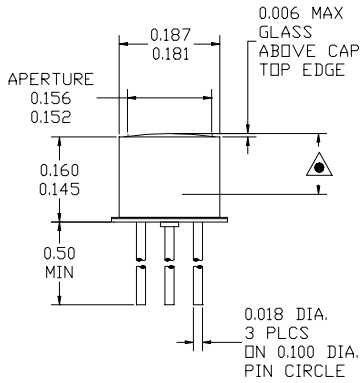
* All values at 23°C

- 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 minimum shunt resistance and 450 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 445-12-22-305, which is -20°C to 75°C.

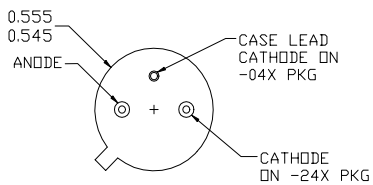
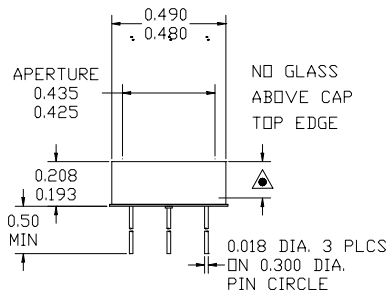


Dimensional Outlines

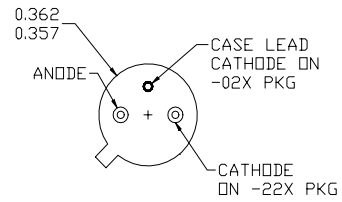
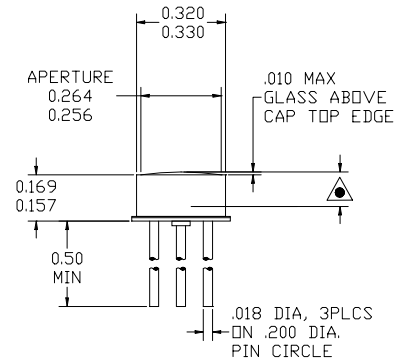
| | |
|-------------------------|--------------|
| SD 041-12-22-011 | .120 .095 |
| SD 041-12-22-211 | .100 .085 |
| SD 076-12-22-011 | .120 .095 |
| SD 076-12-22-211 | .100 .085 |



| | |
|-------------------------|--------------|
| SD 200-12-22-041 | .136 .095 |
| SD 200-12-22-241 | .111 .115 |
| SD 290-12-22-041 | .136 .095 |
| SD 290-12-22-241 | .111 .115 |



| | |
|-------------------------|--------------|
| SD 100-12-22-021 | .111 .095 |
| SD 100-12-22-221 | .098 .078 |
| SD 172-12-22-021 | .111 .095 |
| SD 172-12-22-221 | .098 .078 |



SD 445-12-22-305

