

Series E

Eye Response Detectors

Series E photodiodes are Blue-enhanced detectors with high quality color-correcting filters. The resulting spectral response approximates that of the human eye.

In addition to the Series E photodiodes listed, OSI Optoelectronics can provide other photodiodes in this catalog with a variety of optical filters.



APPLICATIONS

- Photometry/Radiometry
- Medical Instrumentation
- Analytical Chemistry

FEATURES

- Human Eye Response
- TO Can Packages

Model Number	Active Area		Responsivity nA Lux ⁻¹		Dark Current (nA)		NEP (WHZ ^{-1/2})	Capacitance (pF)		Shunt Resistance Megaohms**		Reverse Voltage (DC)	Spectral Curve	Temp. Range (°C)		Package Style †
	Area (mm ²)	Dimensions (mm)	min.	typ.	max.	typ.	550 nm VR=0	Vr=0V max.	Vr=12V max.	min.	typ.	max.		Operating	Storage	
OSD-E Series																
OSD1-E	1	1.0 x 1.0	1	2.2	1	0.2	1.5 x 10 ⁻¹⁴	35	7	250	1000	15	1	-25 ~ +85	-40 ~ +120	7 / TO-18
OSD3-E	3	2.5 x 1.2	3	6.6	2	0.5	1.8 x 10 ⁻¹⁴	80	20	100	700		1			7 / TO-18
OSD5-E	5	2.5 dia.	5	11	2	0.5	1.9 x 10 ⁻¹⁴	130	35	100	600		1			5 / TO-5
OSD15-E	15	3.8 x 3.8	15	33	10	2	5.2 x 10 ⁻¹⁴	390	80	50	80		1			5 / TO-5
OSD60-E	100	11.3 dia.	30	56	30	8	1.2 x 10 ⁻¹³	2500	520	2	10		2			72 / TO-8

Characteristics measured at 22° C (±2) and a reverse bias of 12 volts unless otherwise stated.

** Shunt Resistance measured at +/- 10mV.

† For mechanical drawings please refer to pages 58 thru 69.

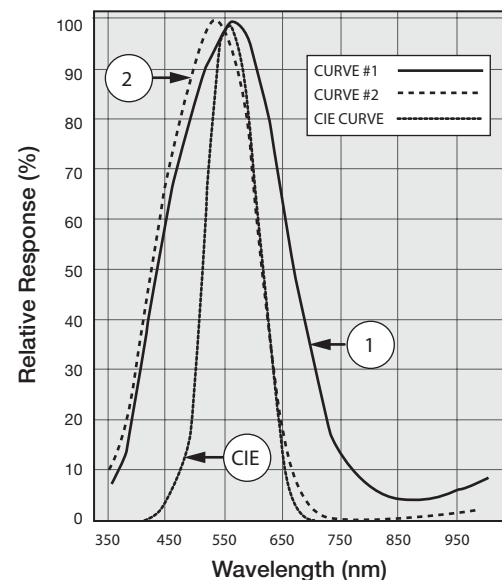
Unit Conversion Table for Illuminance

The Series E photodiodes have been color corrected to provide a photopic eye response. These devices can be used as low illuminance monitors, i.e. visible light measurement instruments and adjusting brightness of visible display.

Lux lx (lm/m ²)	Phot Ph (lm/cm ²)	Foot-candle fc (lm/ft ²)	Watt per square cm* W/cm ²
1	1.000 x 10 ⁻⁴	9.290 x 10 ⁻²	5.0 x 10 ⁻⁶
1.000 x 10 ⁴	1	9.290 x 10 ²	9.290 x 10 ⁻²
1.076 x 10 ¹	1.076 x 10 ⁻³	1	5.0 x 10 ⁻⁵
2.0 x 10 ⁵	1.0 x 10 ¹	1.9 x 10 ⁴	1

*Total irradiance (measured value) by the CIE standard light source "A".

CIE Curve vs. E Type Parts



1. Parameter Definitions:

A = Distance from top of chip to top of glass.

a = Photodiode Anode.

B = Distance from top of glass to bottom of case.

c = Photodiode Cathode

(Note: cathode is common to case in metal package products unless otherwise noted).

W = Window Diameter.

F.O.V. = Field of View (see definition below).

2. Dimensions are in inches (1 inch = 25.4 mm).

3. Pin diameters are 0.018 ± 0.002" unless otherwise specified.

4. Tolerances (unless otherwise noted)

General: 0.XX ±0.01"

0.XXX ±0.005"

Chip Centering: ±0.010"

Dimension 'A': ±0.015"

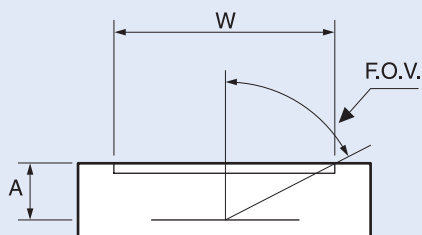
5. Windows

All '**UV**' Enhanced products are provided with QUARTZ glass windows, 0.027 ± 0.002" thick.

All '**XUV**' products are provided with removable windows.

All '**DLS**' PSD products are provided with A/R coated glass windows.

All '**FIL**' photoconductive and photovoltaic products are epoxy filled instead of glass windows.



$$F.O.V. = \tan^{-1} \left(\frac{W}{2A} \right)$$



For Further Assistance
Please Call One of Our Experienced
Sales and Applications Engineers

310-978-0516



- Or -
On the Internet at

www.osioptoelectronics.com

Mechanical Specifications

All units in inches. Pinouts are bottom view.

1 TO-18	2 TO-5	3 TO-8																																		
<p>Products:</p> <p>PIN-020A PIN-040A PIN-040-DP/SB</p> <p>Pin Circle Dia.=0.100</p> <table border="1"> <thead> <tr> <th>P/N</th> <th>A</th> <th>B</th> <th>W</th> </tr> </thead> <tbody> <tr> <td>PIN-020A</td> <td>0.075</td> <td>0.200</td> <td>0.155</td> </tr> <tr> <td>PIN-040A</td> <td>0.075</td> <td>0.200</td> <td>0.155</td> </tr> </tbody> </table>	P/N	A	B	W	PIN-020A	0.075	0.200	0.155	PIN-040A	0.075	0.200	0.155	<p>Products:</p> <p>PIN-5DI PIN-5DPI PIN-13DI PIN-13DPI PIN-5-YAG CD-25T</p> <p>Pin Circle Dia.=0.200</p> <table border="1"> <thead> <tr> <th>P/N</th> <th>A</th> <th>B</th> <th>W</th> </tr> </thead> <tbody> <tr> <td>All Others</td> <td>0.094</td> <td>0.180</td> <td>0.240</td> </tr> <tr> <td>CD-25T</td> <td>0.050</td> <td>0.130</td> <td>0.23</td> </tr> </tbody> </table>	P/N	A	B	W	All Others	0.094	0.180	0.240	CD-25T	0.050	0.130	0.23	<p>Products:</p> <p>PIN-6DI PIN-6DPI PIN-44DI PIN-44DPI OSD35-0 OSD35-7Q</p> <p>Pin Circle Dia.=0.295</p> <table border="1"> <thead> <tr> <th>P/N</th> <th>A</th> </tr> </thead> <tbody> <tr> <td>PIN-6DI/6DPI</td> <td>0.115</td> </tr> <tr> <td>PIN-44DI/44DPI</td> <td>0.125</td> </tr> <tr> <td>OSD35-0</td> <td>0.130</td> </tr> <tr> <td>OSD35-7Q</td> <td>0.130 Quartz Window</td> </tr> </tbody> </table>	P/N	A	PIN-6DI/6DPI	0.115	PIN-44DI/44DPI	0.125	OSD35-0	0.130	OSD35-7Q	0.130 Quartz Window
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