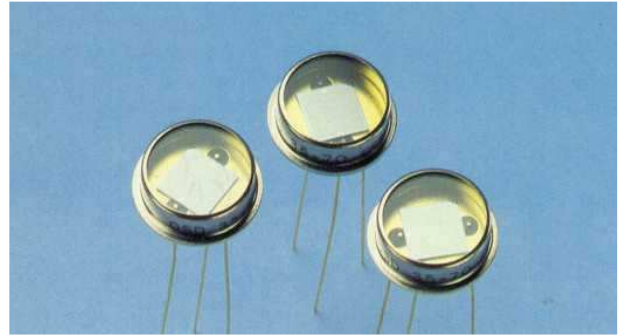


## SUPER UV

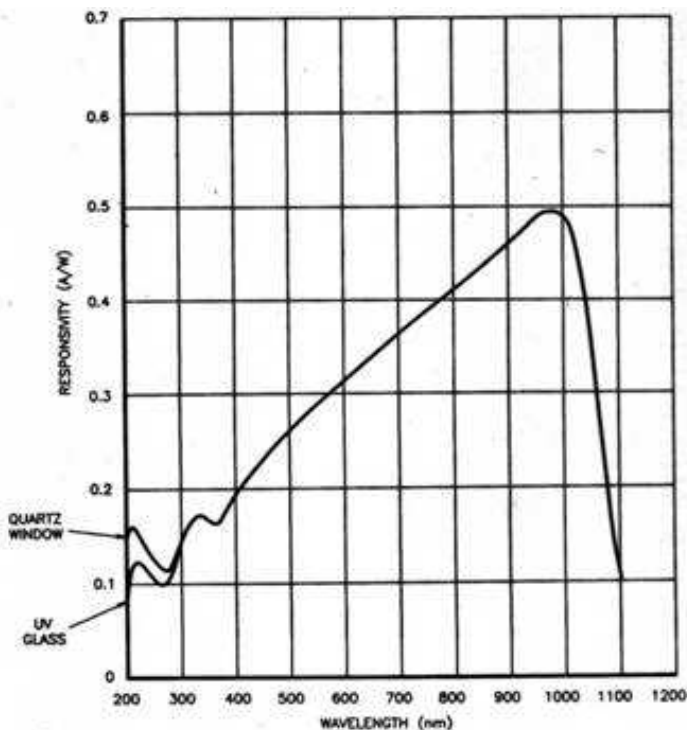
Series 7 Super UV Photodiodes compliment Series 1\* and primarily designed for application in the 194-400 nm range where high shunt resistance and maximum sensitivity are needed. These detectors are available in a range of standard packages with a choice of window material to suit specific applications.



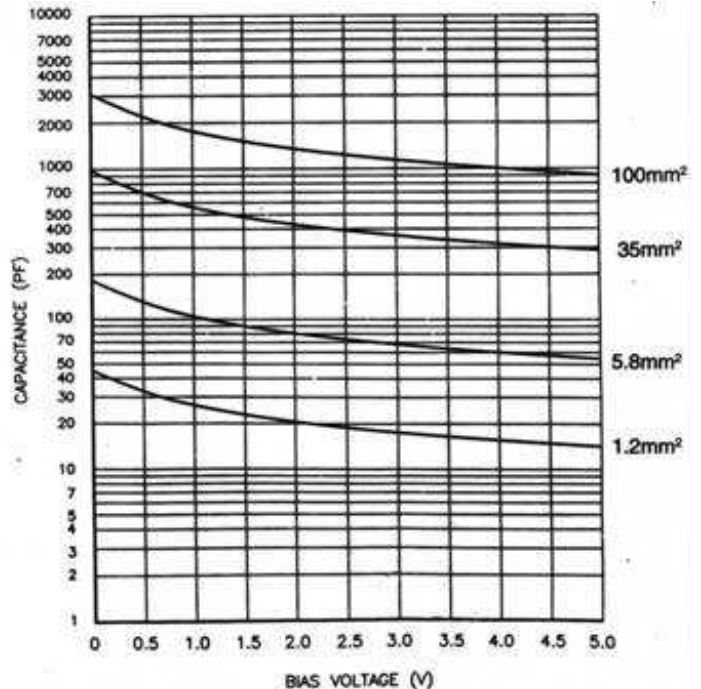
## ABSOLUTE MAXIMUM RATINGS

|   | Max. Rating          |
|---|----------------------|
| DC Reverse Voltage                            | 5V                   |
| Peak Pulse Current (1 $\mu$ s, 1% duty cycle) | 200mA                |
| Peak DC Current                               | 10mA                 |
| Storage Temperature Range                     | -55°C to + 125°C     |
| Operating Temperature Range                   | -55°C to + 70°C      |
| Soldering Temperature for 5 seconds max.      | 200°C                |
| *Max Illumination Intensity                   | 100W/cm <sup>2</sup> |

Series 7 – Typical Spectral Response



Series 7 – Typical Capacitance versus Bias Voltage and Active Area



\*Series 1 photodiodes available to special order. Data on request.

# Silicon Photodetectors

# Series 7

## Electrical / Optical Specifications

(Characteristics measured at 22°C (±2) ambient unless otherwise stated)

| Type No. | Window Option | Active Area     |           | Responsivity A/W* |        |      |      | Dark Current pA @ Vr=10mV | NEP WHz <sup>-1/2</sup> λ = 900 nm | Capacitance PF | Rise Time μs Vr = 0V R <sub>L</sub> =1kΩ | Shunt Resistance Gohm @ Vr±10mV |      | Package |
|----------|---------------|-----------------|-----------|-------------------|--------|------|------|---------------------------|------------------------------------|----------------|--|---------------------------------|------|---------|
|          |               | mm <sup>2</sup> | mm        | @254nm            | @340nm | Typ. | Min. |                           |                                    |                |  | Typ.                            | Min. |         |
| OSD1.2-7 | U             | 1.2             | 1.1 x 1.1 | 0.10              | 0.08   | 0.15 | 0.12 | 2                         | 3 x 10 <sup>-15</sup>              | 40             | 0.1                                      | 0.5                             | 5    | TO18    |
| OSD1.2-7 | Q             | 1.2             | 1.1 x 1.1 | 0.13              | 0.10   | 0.18 | 0.14 | 2                         | 3 x 10 <sup>-15</sup>              | 40             | 0.1                                      | 0.5                             | 5    | TO18    |

| Type No. | Window Option | Active Area     |           | Responsivity A/W* |        |      |      | Dark Current pA @ Vr=10mV | NEP WHz <sup>-1/2</sup> λ = 900 nm | Capacitance PF | Rise Time μs Vr = 0V R <sub>L</sub> =1kΩ | Shunt Resistance Gohm @ Vr±10mV |      | Package |
|----------|---------------|-----------------|-----------|-------------------|--------|------|------|---------------------------|------------------------------------|----------------|--|---------------------------------|------|---------|
|          |               | mm <sup>2</sup> | mm        | @254nm            | @340nm | Typ. | Min. |                           |                                    |                |  | Typ.                            | Min. |         |
| OSD5.8-7 | U             | 5.8             | 2.4 x 2.4 | 0.10              | 0.08   | 0.15 | 0.12 | 3                         | 6 x 10 <sup>-15</sup>              | 170            | 0.4                                      | 0.5                             | 3    | TO5     |
| OSD5.8-7 | Q             | 5.8             | 2.4 x 2.4 | 0.13              | 0.10   | 0.18 | 0.14 | 3                         | 6 x 10 <sup>-15</sup>              | 170            | 0.4                                      | 0.5                             | 3    | TO5     |
| OSD5.8-7 | CO            | 5.8             | 2.4 x 2.4 | 0.14              | 0.11   | 0.19 | 0.15 | 3                         | 6 x 10 <sup>-15</sup>              | 170            | 0.4                                      | 0.5                             | 3    | 22      |
| OSD5.8-7 | CQ            | 5.8             | 2.4 x 2.4 | 0.13              | 0.10   | 0.18 | 0.14 | 3                         | 6 x 10 <sup>-15</sup>              | 170            | 0.4                                      | 0.5                             | 3    | 22      |

| Type No. | Window Option | Active Area     |           | Responsivity A/W* |        |      |      | Dark Current pA @ Vr=10mV | NEP WHz <sup>-1/2</sup> λ = 900 nm | Capacitance PF | Rise Time μs Vr = 0V R <sub>L</sub> =1kΩ | Shunt Resistance Gohm @ Vr±10mV |      | Package |
|----------|---------------|-----------------|-----------|-------------------|--------|------|------|---------------------------|------------------------------------|----------------|--|---------------------------------|------|---------|
|          |               | mm <sup>2</sup> | mm        | @254nm            | @340nm | Typ. | Min. |                           |                                    |                |  | Typ.                            | Min. |         |
| OSD35-7  | U             | 33.6            | 5.8 x 5.8 | 0.10              | 0.08   | 0.15 | 0.12 | 20                        | 1.5 x 10 <sup>-14</sup>            | 1000           | 2.0                                      | 0.1                             | 0.5  | TO8     |
| OSD35-7  | Q             | 33.6            | 5.8 x 5.8 | 0.13              | 0.10   | 0.18 | 0.14 | 20                        | 1.5 x 10 <sup>-14</sup>            | 1000           | 2.0                                      | 0.1                             | 0.5  | TO8     |
| OSD35-7  | CO            | 33.6            | 5.8 x 5.8 | 0.14              | 0.11   | 0.19 | 0.15 | 20                        | 1.5 x 10 <sup>-14</sup>            | 1000           | 2.0                                      | 0.1                             | 0.5  | 23      |
| OSD35-7  | CQ            | 33.6            | 5.8 x 5.8 | 0.13              | 0.10   | 0.18 | 0.14 | 20                        | 1.5 x 10 <sup>-14</sup>            | 1000           | 2.0                                      | 0.1                             | 0.5  | TO8     |

| Type No. | Window Option | Active Area     |         | Responsivity A/W* |        |      |      | Dark Current pA @ Vr=10mV | NEP WHz <sup>-1/2</sup> λ = 900 nm | Capacitance PF | Rise Time μs Vr = 0V R <sub>L</sub> =1kΩ | Shunt Resistance Gohm @ Vr±10mV |      | Package |
|----------|---------------|-----------------|---------|-------------------|--------|------|------|---------------------------|------------------------------------|----------------|--|---------------------------------|------|---------|
|          |               | mm <sup>2</sup> | mm      | @254nm            | @340nm | Typ. | Min. |                           |                                    |                |  | Typ.                            | Min. |         |
| OSD100-7 | U             | 100             | 10 x 10 | 0.10              | 0.08   | 0.15 | 0.12 | 50                        | 2 x 10 <sup>-14</sup>              | 3000           | 6.0                                      | 0.03                            | 0.2  | 13      |
| OSD100-7 | Q             | 100             | 10 x 10 | 0.13              | 0.10   | 0.18 | 0.14 | 50                        | 2 x 10 <sup>-14</sup>              | 3000           | 6.0                                      | 0.03                            | 0.2  | 13      |
| OSD100-7 | CO            | 100             | 10 x 10 | 0.14              | 0.11   | 0.19 | 0.15 | 50                        | 2 x 10 <sup>-14</sup>              | 3000           | 6.0                                      | 0.03                            | 0.2  | 24      |
| OSD100-7 | CQ            | 100             | 10 x 10 | 0.13              | 0.10   | 0.18 | 0.14 | 50                        | 2 x 10 <sup>-14</sup>              | 3000           | 6.0                                      | 0.03                            | 0.2  | 24      |

- Q = Quartz Window TO Packaging
- CQ = Quartz Window Ceramic Packaging
- CO = Open Frame (no window) Ceramic Packaging
- U = UV Transmissive Glass (TO packaging only)

**FOR BEST RESPONSE BELOW 250nm SPECIFY OPEN FRAME VERSION**

**Highlighted items are Centronic standard products generally available from stock**

