

PHOTODIODE

Si PIN photodiode  
**S3994-01**

Si PIN photodiode for optical power meters



S3994-01 is a Si PIN photodiode designed for optical power meters. Compared to the previous type (S3994), S3994-01 has an improved anti-reflection film and sensitivity optimized for detection of violet laser beams. The flat glass used as the light input window is less susceptible to scratches than resin windows, allowing easy handling.

Features

- Thin package (1.4 mm Max.)
- High sensitivity: 0.28 A/W Typ. ( $\lambda=410$  nm)
- Large active area: 10 × 10 mm

Applications

- Violet laser detection

■ Absolute maximum ratings (Ta=25 °C)

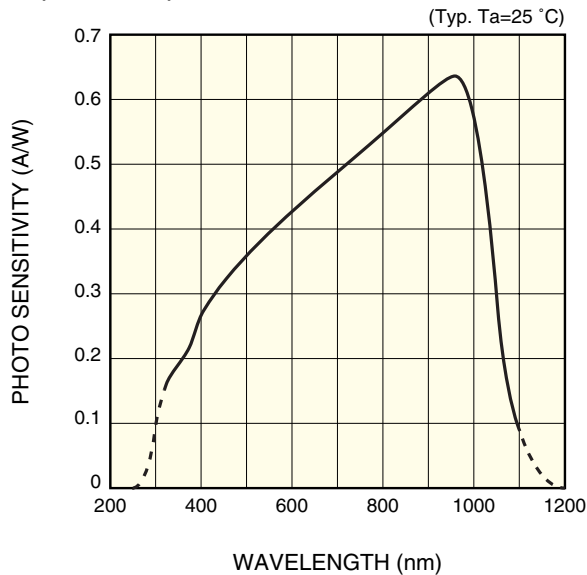
| Parameter             | Symbol  | Value      | Unit |
|-----------------------|---------|------------|------|
| Reverse voltage       | VR Max. | 50         | V    |
| Operating temperature | Topr    | -20 to +60 | °C   |
| Storage temperature   | Tstg    | -20 to +80 | °C   |

■ Electrical and optical characteristics (Ta=25 °C)

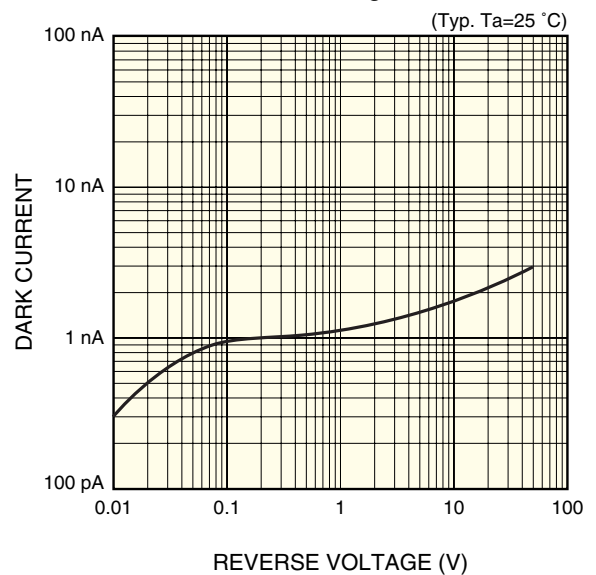
| Parameter                   | Symbol      | Condition                        | Min. | Typ.        | Max. | Unit          |
|-----------------------------|-------------|----------------------------------|------|-------------|------|---------------|
| Spectral response range     | $\lambda$   |                                  | -    | 320 to 1100 | -    | nm            |
| Peak sensitivity wavelength | $\lambda_p$ |                                  | -    | 960         | -    | $\mu\text{m}$ |
| Photo sensitivity           | S           | $\lambda=410$ nm                 | 0.24 | 0.28        | -    | A/W           |
| Dark current                | ID          | VR=30 V                          | -    | 3           | 10   | nA            |
| Terminal capacitance        | Ct          | VR=30 V, f=1 MHz                 | -    | 40          | -    | pF            |
| Cut-off frequency           | fc          | VR=30 V, RL=50 $\Omega$<br>-3 dB | -    | 20          | -    | MHz           |

## Si PIN photodiode S3994-01

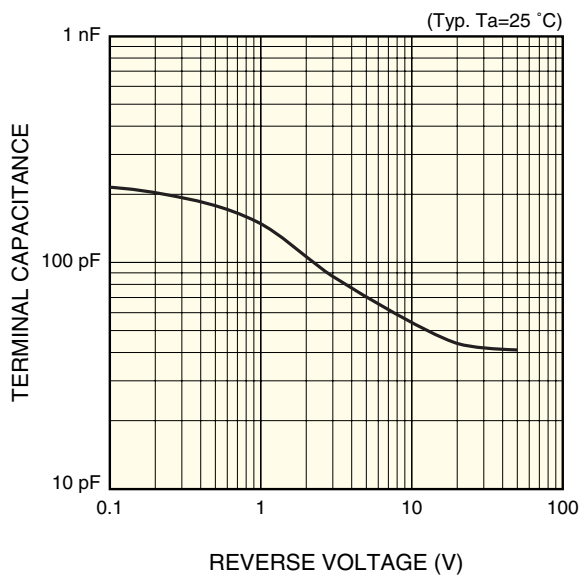
### ■ Spectral response



### ■ Dark current vs. reverse voltage



### ■ Terminal capacitance vs. reverse voltage



### ■ Dimensional outline (unit: mm)

