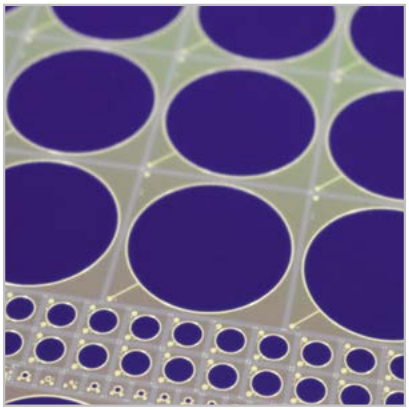
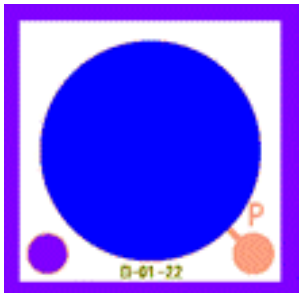
# High Quantum Efficiency Photo Diodes (HQE Detectors)

Our High Quantum Efficiency (HQE) photodiodes have been provided to a number of research organizations around the world. Customers have achieved record breaking results especially in squeezed light applications. These photodiodes are typical tailored to a specific wavelength, angle of incidence and polarization.

## Features

- Quantum efficiency ≥ 99 % (99.5 % typically)
- Screened for microdefects
- Delivered with removable cap
- Anode and cathode isolated from ground
- For 1064 + 1550 nm mainly






Chip design



Germany & Other Countries
Laser Components GmbH
Tel: +49 8142 2864 – 0
Fax: +49 8142 2864 – 11
info@lasercomponents.com
www.lasercomponents.com

USA
Laser Components USA, Inc.
Tel: +1 603 821 – 7040
Fax: +1 603 821 – 7041
info@laser-components.com
www.laser-components.com

## Specifications

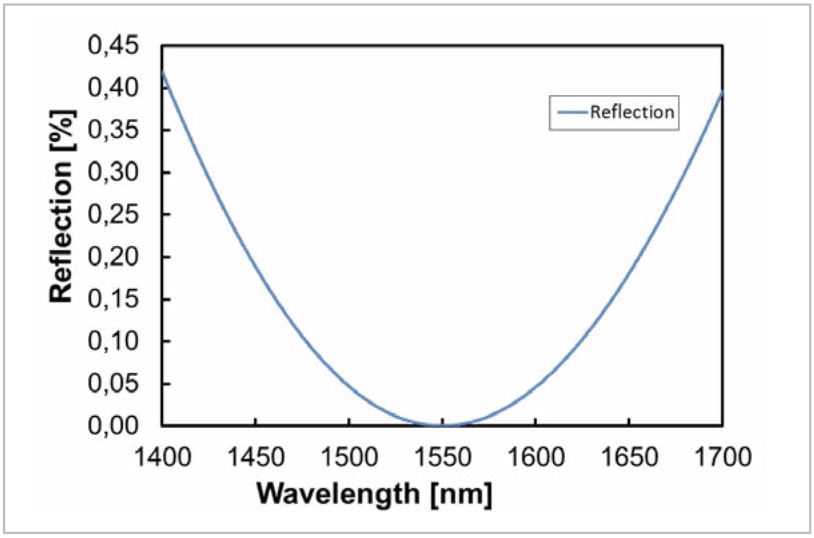
| Part Number | Diameter [µm] | Dark Current @ -2.5 V | Capacity @ -2.5 V, 1 MHz | Bandwidth | Responsivity [A/W] |
|---|---|---|---|---|---|
| IGHQEX0060 | 60 | 100 pA | 500 fF | 1.5 GHz | 1.14 |
| IGHQEX0080 | 80 | 200 pA | 1 pF | 800 MHz | 1.14 |
| IGHQEX0100 | 100 | 300 pA | 2 pF | 400 MHz | 1.14 |
| IGHQEX0300 | 300 | 500 pA | 8 pF | 100 MHz | 1.14 |
| IGHQEX0500 | 500 | 800 pA | 14 pF | 35 MHz | 1.14 |
| IGHQEX2000 | 2000 | 25 nA | 180 pF | 500 kHz | 1.14 |
| IGHQEX3000 | 3000 | 60 nA | 400 pF | 350 kHz | 1.14 |

## AR-Coatings

- R <0.4%, R <0.05% best effort

| Wavelength [nm] | AOI [°] | Polarization |
|---|---|---|
| 1064 | 20 | s-pol (TE) |
| 1064 | 10 | p-pol (TM) |
| 1550 | 20 | s-pol (TE) |

Other AR coatings possible




Example: 1550 nm / 20° / s-pol (TE)



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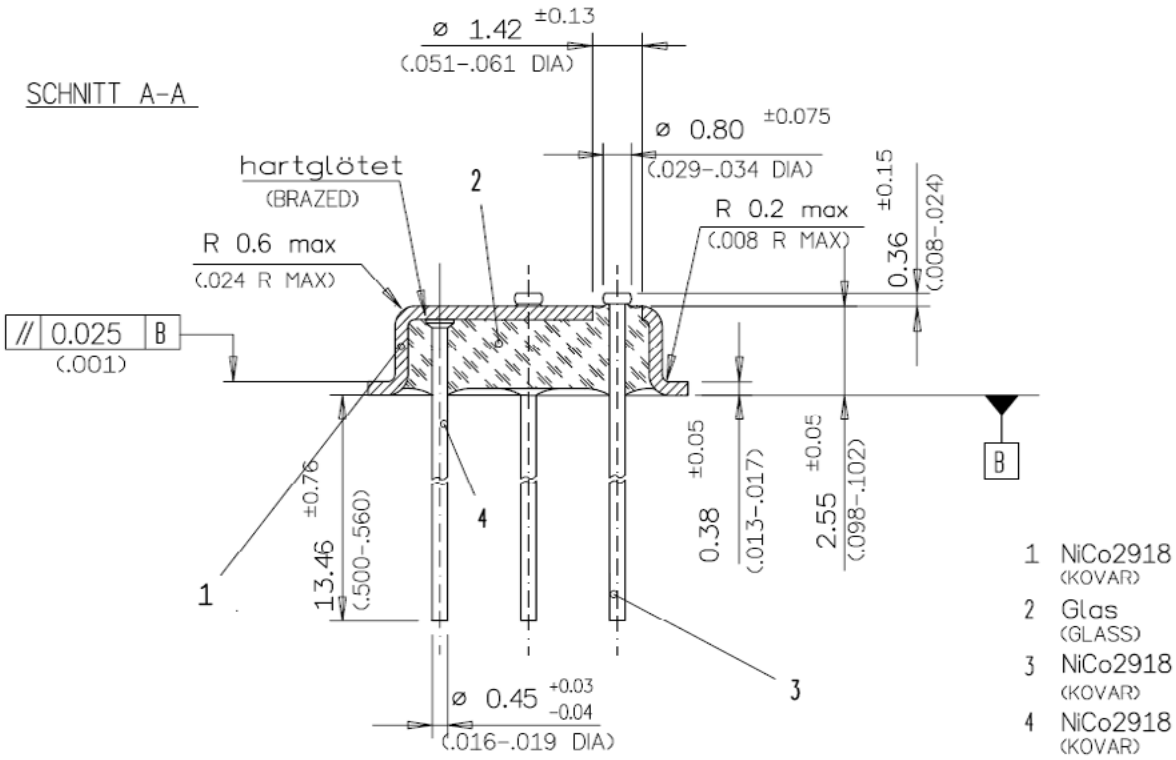
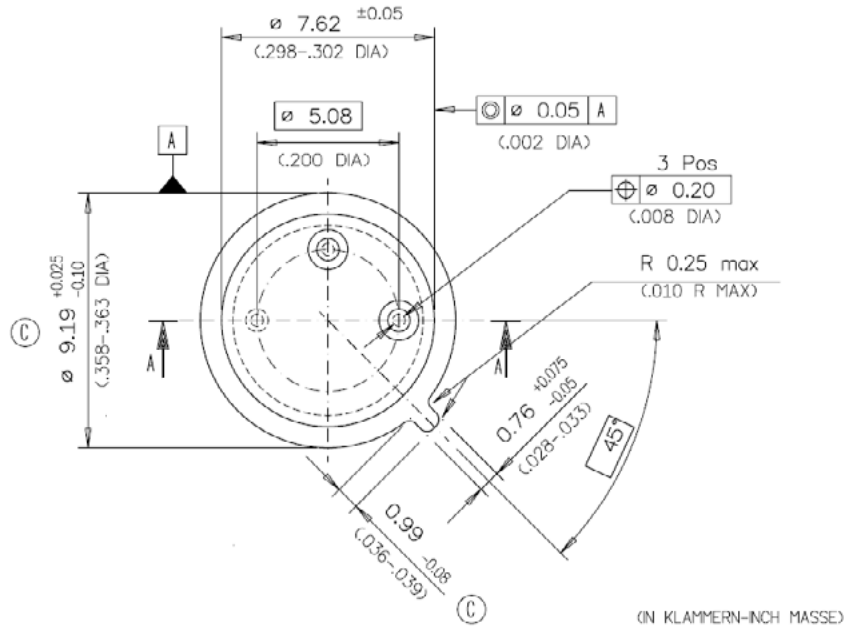
## Packaging

SOT9 Module: Delivered with removable cap, Anode and Cathode separated from ground



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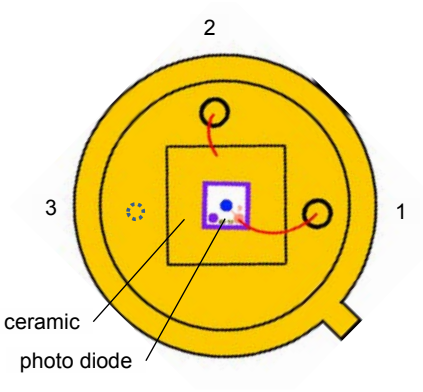


Pin connection

Pin connection (TOP VIEW):

PIN 1: Anode
PIN 2: Cathode
PIN 3: Case Ground

## Maximum Ratings

| | |
|---|---|
| Max. forward current | 10 mA |
| Max. reverse voltage | -15 V |
| Operating temperature | -20 … 85 °C |

## Product Changes

LASER COMPONENTS reserves the right to make changes to the product(s) or information contained herein without notice. No liability is assumed as a result of their use or application.

## Ordering Information

Products can be ordered directly from LASER COMPONENTS or its representatives. For a complete listing of representatives, visit our website at www.lasercomponents.com



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