

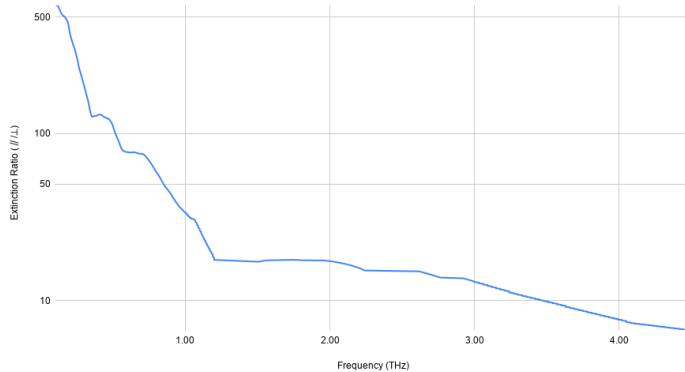
Wire Grid Polarizer Spec Sheet

Nielson Scientific high-performance polarizers are designed for mid/far infrared, millimeter wave, and terahertz applications. Our polarizer specifications are shown in the bullets and the chart below. Polarizers are created by patterning thin lines of metal on an extremely thin polymer film. Polarizers are available in a variety of duty cycles and with feature sizes as small as one micrometer. General specifications are shown below. Polarizers come in standard sizes, including SM1 and SM2 threading.

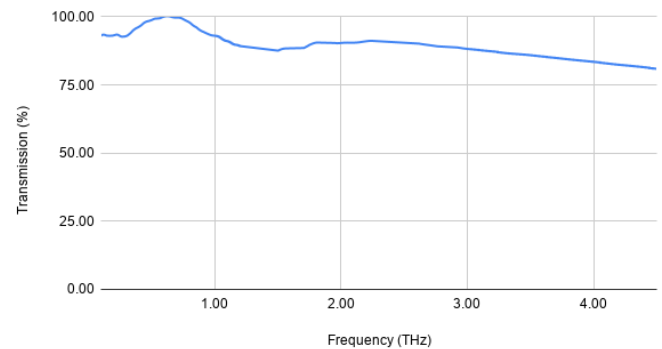
General Specifications:

- **Frequency Range:** Polarizers are primarily designed for operation up to 2 THz ($15\ \mu\text{m}$, $66.7\ \text{cm}^{-1}$)
- **Maximum Size:** SM2 threading
- **Material:** Copper on polypropylene. Gold electroplating is available upon request.
- **Polarization:** Polarization is tested
- **Available Line Widths:** $\geq 2\ \mu\text{m}$
- **Temperature Range:** Available in packages suitable for cryogenic applications
- **Reflectivity:** All Nielson Scientific polarizers are reflective and can also operate as polarizing beamsplitters.
- **Absorbance:** Absorbance is below 1.5% for all polarizers operating below 2 THz.

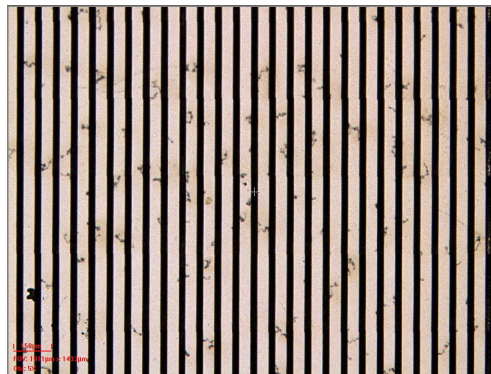
Polarizer (2 μm line width) Extinction Ratio



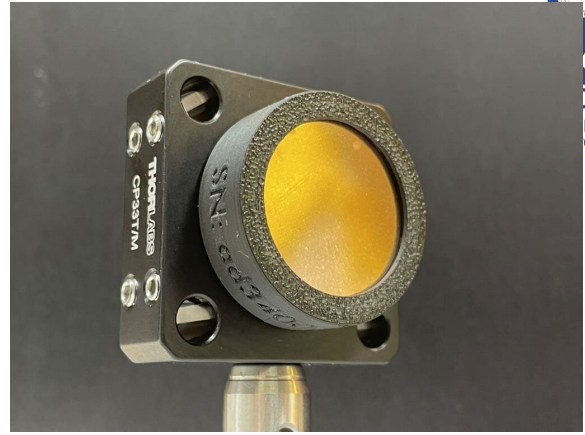
Polarizer (2 μm line width) Co-Polar Transmission



The extinction ratio and Co-Polar transmission of a sample 2 μm polarizer



Wire grid polarizers are patterned with thin metal wires. The above picture shows a sample of metal wires patterned on a polymer substrate.



The above figures show sample product packaging and design.