

# MWIR WIRE-GRID POLARIZER

Wire Grid Polarizers by Coherent are based on advanced meta-optics wires (MOW)™ technology and offer best-in-class extinction ratio and high transmission in the mid IR region. They are optimal for use in isolators in quantum cascade lasers and as a stand-alone component for beam polarization control. The device transmits signals polarized with electric field vector perpendicular to the MOW and reflects those with orthogonal polarization with minimal absorptive losses.



## APPLICATIONS

- Quantum Cascade Lasers
- Remote sensing
- Spectroscopy
- Thermal imaging
- Machine vision
- Astronomy

## PRODUCT KEY

P-3.0-5.0-12.5x12.5-47-97

Polarizer start\_λ end\_λ dims contrast transmission

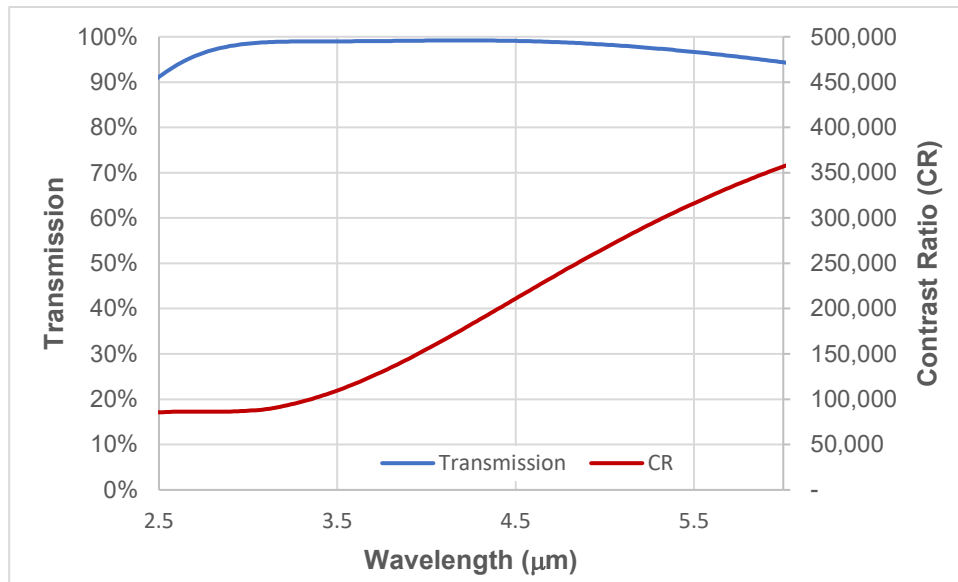
## BENEFITS

- Best-in-class extinction ratio and transmission
- Wide angular and spectral operation range superior to bulk optics
- AR coated for superior transmission
- High temperature operation up to 500° and low TEC
- Excellent environmental reliability through robust inert materials
- Optical performance independent of device thickness – miniaturization
- Enables Form factor superior to bulk optics
- Cost effective wafer level production

# MWIR WIRE-GRID POLARIZER

## Specifications

Description		
Wavelength range	3.0-5.0 $\mu\text{m}$	
Contrast	40 dB (10,000:1) min	Measured @ 3.4 $\mu\text{m}$ @ 0° AOI Higher value available by request
Transmission	95% min	Measured @ 3.4 $\mu\text{m}$ @ 0° AOI Higher value available by request
Operational angle of incidence (AOI)	0 $\pm$ 25°	
Dimensions	6.4x6.4 mm 12.5x12.5 mm	$\pm$ 0.2 mm tolerance Large sizes available by request
Thickness	0.675 mm	$\pm$ 0.05 mm tolerance
Max operating temperature	500°C	
Construction	Si substrate, AR dielectric films, metal meta-optics wires	



Polarizer performance (simulated data for reference only)