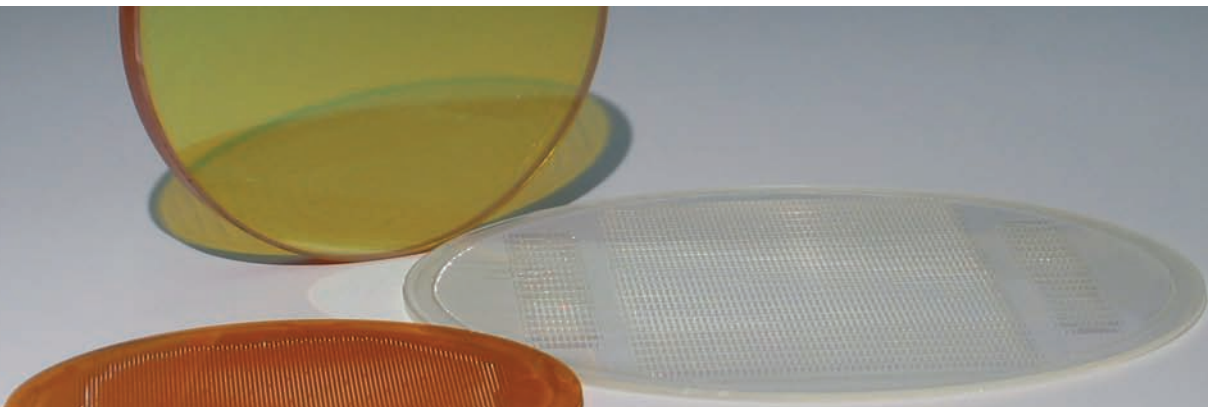




## IR Microoptics



Jenoptik provides unique microoptics solutions for the near to long wave infrared spectrum (NIR to LWIR). The flexibility of gray scale technology allows the creation of refractive (microlens arrays) and diffractive (beam shapers, beam splitters, etc.) microoptics from a wide variety of materials such as germanium, silicon, gallium phosphide, gallium arsenide, zinc selenide, zinc sulfide, and sapphire. The use of these materials allows for reduction in the size and weight of the optics and increased performance. The ability to process IR transmissive material brings all the advantages of microoptics into applications of infrared imaging and infrared laser systems.

### Features:

- Planar optical design
- Low weight
- Diffraction limited optics
- Arbitrary lens layout
- Design for NIR, SWIR, MWIR, LWIR spectral regions
- High fill factor
- Aspheric refractive designs
- High efficiency diffractive designs

### Applications:

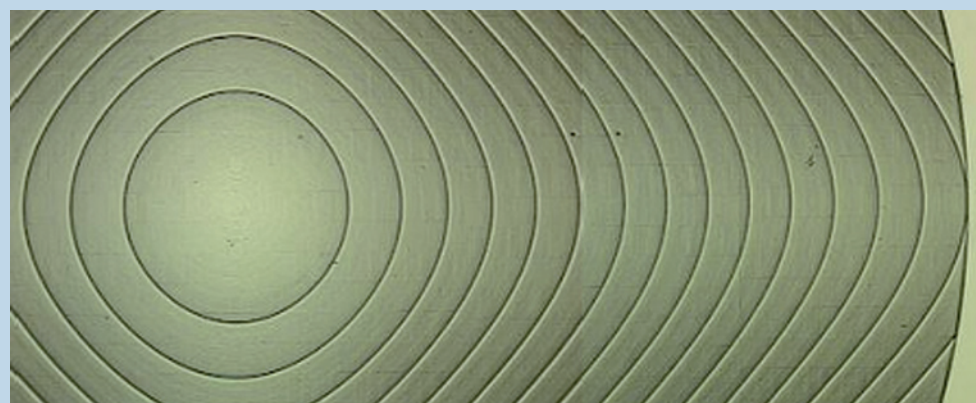
- Micro or mini unmanned aerial vehicles
- Laser machining
- Night vision enhancement, helmet mounted systems
- Uncooled and detector technology
- Weapon sights, targeting
- Search and rescue, firefighting
- Process control

# IR Microoptics

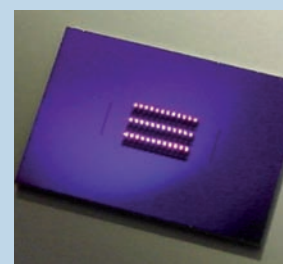
## Specifications

Diffractive optical elements:	Beam shapers, diffusers, beam splitters, diffractive lenses, homogenizers
Refractive optical elements:	Microlens arrays, aspheric lenses, toric lenses, light weight imaging systems
Wavelengths:	0.690 $\mu\text{m}$ to 14 $\mu\text{m}$
Materials:	Si, Ge, ZnS, ZnSe, GaP, GaAs, Sapphire
AR-Coating:	Laser line or broadband
Thickness:	1 mm to 6 mm
Design:	Achromatic , hybrid (diffractive / refractive), or custom
Surface roughness:	$\lambda / 40$
Product number:	029150

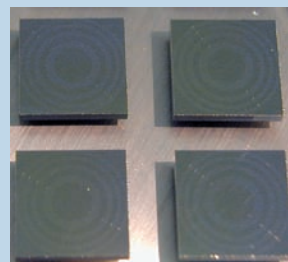
### Diffractive and refractive micro optics in IR materials for NIR to LWIR wavelengths



ZnSe



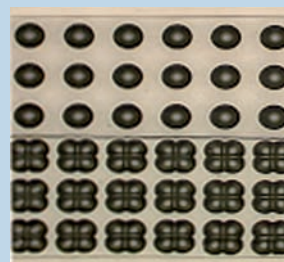
Si



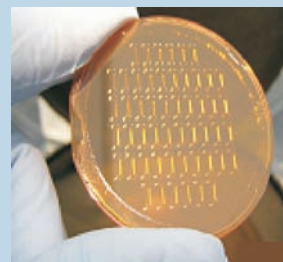
Ge



GaP



ZnS



GaP

It is our policy to constantly improve the design and specifications. Accordingly, the details represented herein cannot be regarded as final and binding.



JENOPTIK | Optical Systems  
Microoptics Business Unit  
JENOPTIK Laser, Optik, Systeme GmbH  
Goeschwitzer Strasse 25 | 07745 Jena | Germany  
Phone +49 3641 65-2442 | Fax -2443  
microoptics@jenoptik.com | www.jenoptik-los.com

MEMS Optical, Inc.  
205 Import Circle | Huntsville | AL 35806 | USA  
Phone +1 256 859-1886 | Fax +1 256 859-5890  
info@memsoptical.com | www.memsoptical.com

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