# High-Resistivity Silicon Lenses

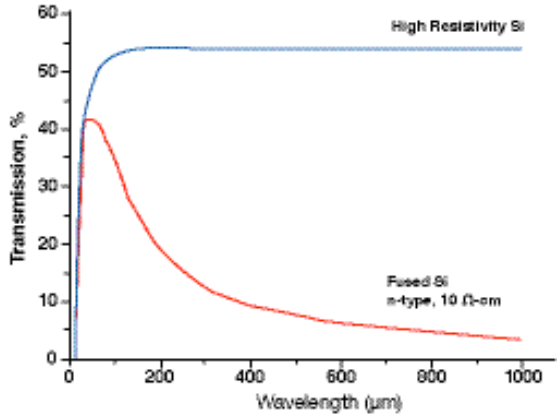


High-resistivity silicon lenses transmit more than 50 percent of terahertz radiation in the 50µm–1000µm spectral region when the lens thickness is less than 0.5". As can be seen from the plot below, HRFZ-Si has superior transmission properties due to its high resistance and lack of absorption lines in this spectral region.

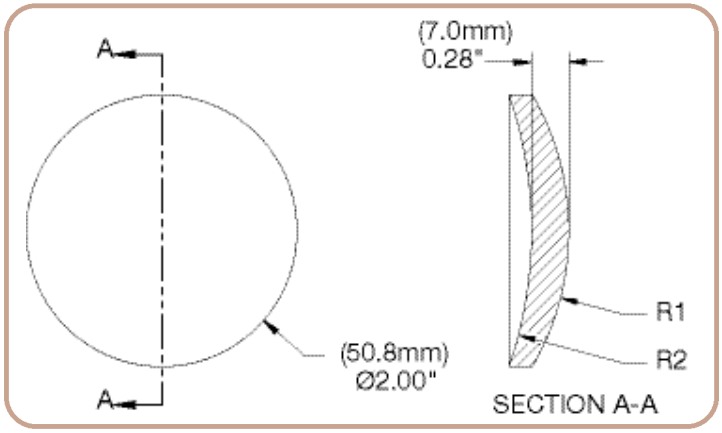
Each Ø50.8mm lens has a meniscus shape, which performs nearly as well as a best form lens.

### Features
- High Resistance
- Lack of Absorbtion Lines
- Meniscus Shape

**Silicon Transmission, 16-1000µm, Thickness = 0.05mm**




### Specifications
- **Material:** High Resistivity Float Zone Silicon (HRFZ-Si)
- **Resistivity:** >10kΩ/cm
- **Refractive Index:**
  λ→°: n = 3.416
  λ = 9µm: n = 3.4232
- **Transmission (Thickness = 0.5mm):** >51% for 50µm ≤ λ ≤ 1000µm
- **Diameter:** 50.8 ± 0.1mm (2.0")
- **Center Thickness:** 7.0 ± 0.1mm (0.28")
- **Scratch-Dig:** 60-40
- **Clear Aperture:** >90%
- **Design Wavelength:** 300µm (n = 3.4180)




| ITEM # | R1(mm) | R2(mm) |
|---|---|---|
| LAHR2050 | 50.23 | 77.27 |
| LAHR2075 | 73.45 | 115.08 |
| LAHR2100 | 95.94 | 151.01 |
| LAHR2150 | 143.22 | 228.00 |
| LAHR2200 | 187.50 | 297.90 |

| ITEM # | $ | £ | € | RMB | DESCRIPTION |
|---|---|---|---|---|---|
| LAHR2050 | $ 660.00 | £ 415.80 | € 613,80 | ¥ 6,303.00 | High-Resistivity Lens, 50mm EFL, Ø50.8mm |
| LAHR2075 | $ 540.00 | £ 340.20 | € 502,20 | ¥ 5,157.00 | High-Resistivity Lens, 75mm EFL, Ø50.8mm |
| LAHR2100 | $ 460.00 | £ 289.80 | € 427,80 | ¥ 4,393.00 | High-Resistivity Lens, 100mm EFL, Ø50.8mm |
| LAHR2150 | $ 410.00 | £ 258.30 | € 381,30 | ¥ 3,915.50 | High-Resistivity Lens, 150mm EFL, Ø50.8mm |
| LAHR2200 | $ 360.00 | £ 226.80 | € 334,80 | ¥ 3,438.00 | High-Resistivity Lens, 200mm EFL, Ø50.8mm |

*EFL (Effective Focal Length)