

HSL-12-7.1 Hyperhemispherical Silicon Lens with diameter 12 mm and height 7.1 mm

Hyperhemispherical silicon lens

material	undoped HRFZ-silicon
specific resistance ρ	>10 k Ω ·cm
refractive index n	3.41
diameter 2·r	12 mm
height h	7.1 mm
distance d	7.7 mm
surface	polished
PCA chip thickness t	0.6 mm



Terahertz beam

collection angle α	73°
divergence angle β	17°
virtual focus length L	26.5 mm

Relations for hyperhemispherical lens

$$d = r \cdot \left(\frac{n+1}{n} \right) \quad L = r \cdot (n+1) \quad \alpha = \arctan(n) \quad \beta = \arcsin\left(\frac{1}{n}\right)$$

