Data sheet TPX-D50.8-f200

Plano-convex TPX lens with diameter 50.8 mm and focal length 200 mm for THz application

Description
The TPX-D50.8-f200 is a plano-convex TPX (Polymethylpentene) lens for THz waves. It can be used to focus a collimated THz beam.

Lens parameters:
- material: TPX (Polymethylpentene)
- refractive index $n$: 1.45 @ 1 THz
- absorption coeff. $\alpha$: 0.3 cm$^{-1}$
- focal length: 200 mm (distance flat surface – focus)
- outer lens diameter: 50.8 mm
- free aperture diameter: 47.8 mm
- maximum lens thickness: 8 mm
- edge lens thickness: 4.9 mm
- aperture angle $\alpha$: 6.7 °
- numerical aperture NA: 0.12

Airy disc diameter
- $\nu = 300$ GHz: 5.3 mm
- $\nu = 1$ THz: 1.6 mm
- $\nu = 3$ THz: 0.53 mm

Lens tube
- outer diameter: 55.9 mm
- length: 11.4 mm (0.45")
**Order information**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
<th>Photo</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPX-D50.8-f200-0</td>
<td>Unmounted TPX lens with diameter D = 50.8 mm and focal length f = 200 mm</td>
<td><img src="https://example.com/unmounted.png" alt="Unmounted TPX lens" /></td>
</tr>
<tr>
<td>TPX-D50.8-f200-t12.7</td>
<td>Mounted TPX lens with diameter D = 50.8 mm and focal length f = 200 mm, tube length 12.7 mm</td>
<td><img src="https://example.com/mounted12.7.png" alt="Mounted TPX lens" /></td>
</tr>
<tr>
<td>TPX-D50.8-f200-t25.4</td>
<td>Mounted TPX lens with diameter D = 50.8 mm and focal length f = 200 mm, tube length 25.4 mm</td>
<td><img src="https://example.com/mounted25.4.png" alt="Mounted TPX lens" /></td>
</tr>
</tbody>
</table>