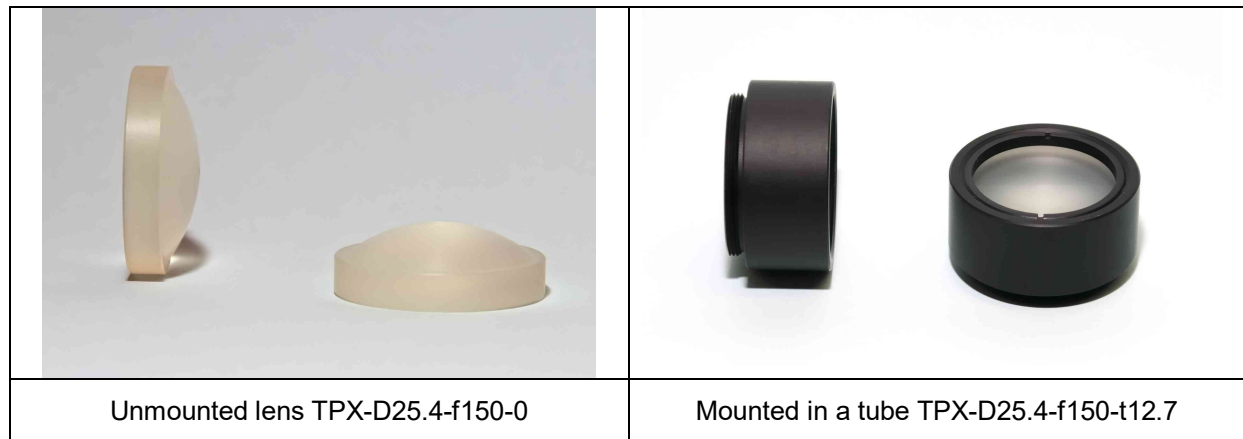


## Data sheet TPX-D25.4-f150

### Plano-convex TPX lens with diameter 25.4 mm and focal length 150 mm for THz application



#### Description

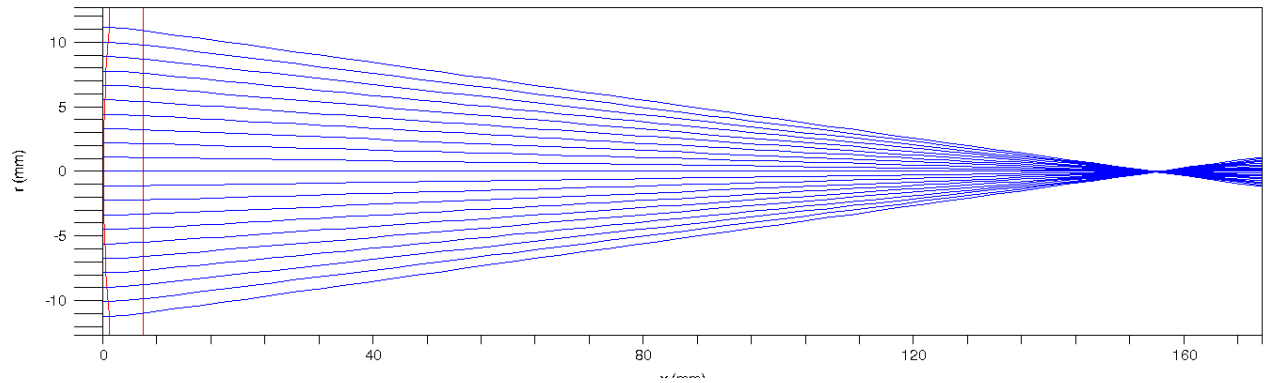
The TPX-D25.4-f150 is a plano-convex TPX (Polymethylpentene) lens for THz waves. It can be used to focus a collimated THz beam.

|                         |                            |                                        |
|-------------------------|----------------------------|----------------------------------------|
| <b>Lens parameters:</b> | material                   | TPX (Polymethylpentene)                |
|                         | refractive index $n$       | 1.45 @ 1 THz                           |
|                         | absorption coeff. $\alpha$ | $0.3 \text{ cm}^{-1}$                  |
|                         | focal length               | 150 mm (distance flat surface – focus) |
|                         | outer lens diameter        | 25.4 mm                                |
|                         | free aperture diameter     | 22.4 mm                                |
|                         | maximum lens thickness     | 6.0 mm                                 |
|                         | edge lens thickness        | 5.1 mm                                 |
|                         | aperture angle $\alpha$    | $4.2^\circ$                            |
|                         | numerical aperture NA      | 0.072                                  |




|                           |                         |         |
|---------------------------|-------------------------|---------|
| <b>Airy disc diameter</b> | $\nu = 300 \text{ GHz}$ | 8.5 mm  |
|                           | $\nu = 1 \text{ THz}$   | 2.6 mm  |
|                           | $\nu = 3 \text{ THz}$   | 0.85 mm |

|                  |                |                                             |
|------------------|----------------|---------------------------------------------|
| <b>Lens tube</b> | outer diameter | 30.5 mm                                     |
|                  | length         | 12.7 mm ( $\frac{1}{2}$ " ) or 25,4 mm (1") |

TPX lens 25.4 mm diameter, 150 mm focus length



### Order information

| <b>Part number</b>   | <b>Description</b>                                                                              | <b>Photo</b>                                                                          |
|----------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| TPX-D25.4-f150-0     | Unmounted TPX lens with diameter $D = 25.4$ mm and focal length $f = 150$ mm                    |    |
| TPX-D25.4-f150-t12.7 | Mounted TPX lens with diameter $D = 25.4$ mm and focal length $f = 150$ mm, tube length 12.7 mm |  |
| TPX-D25.4-f150-t25.4 | Mounted TPX lens with diameter $D = 25.4$ mm and focal length $f = 150$ mm, tube length 25.4 mm |  |