

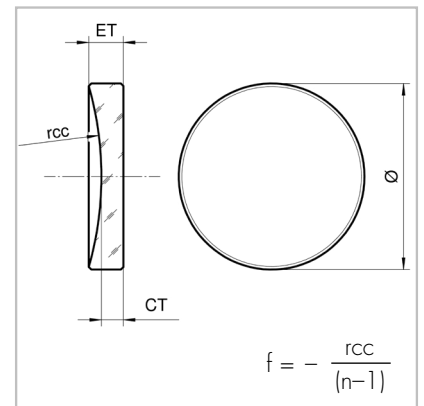
## Plano Concave Lenses

The inexpensive plano-convex and plano-concave lenses are often used in laser applications. Compared to lenses with two curved surfaces, lenses with the same focal length have a higher spherical aberration. When used in laser applications, experience has shown that aberrations can be neglected on account of the small beam diameter. Therefore, the quality of plano-concave and plano-convex lenses is adequate.

In the table, you will find focal length values for commonly used wavelengths.

### Plano-concave Lenses

Plano-concave lenses are so-called negative lenses. In laser technology, they are primarily used for beam expansion.



### Typical Specifications

Material	BK7, fused silica
Diameter tolerance	+ 0.00 mm; - 0.20 mm
Thickness tolerance	± 0.20 mm
Radii tolerance	± 0.5 % for rcc < 0.5 m ± 1% for 0.5 m < rcc < 2 m For radii larger than 2 m please check with our sales department.
Clear aperture	85 % of diameter
Surface figure	
Curved surface	3/-(0.2/-) according to ISO 10110
Plane surface	3/0.2(0.2/-) according to ISO 10110 λ/10 according to MIL-O-1380A
Surface quality	5/4 x 0.025 for 1.0" substrates according to ISO 10110 10-5 according to MIL-O-1380A
Centering error	4/3' according to ISO 10110
Protective chamfer	0.2 – 0.4 mm x 45°

## Nomenclature

<b>PLCC</b>	<b>-25.4</b>	<b>/51.5</b>	<b>C</b>
Product code (Plano Concave Lens)	Diameter in mm	Concave radius of curvature in mm	Material code UV: fused silica C: BK7

## Fused Silica Plano Concave Lenses

Part No.	Nominal f [mm]	Diameter Ø [mm]	f [mm] (248 nm) n = 1.50855	f [mm] (308 nm) n = 1.4856	f [mm] (355 nm) n = 1.47607	f [mm] (1064 nm) n = 1.44963	Curvature rcc [mm]	Center Thickness CT [mm]	Edge Thickness ET [mm]
PLCC-10.0/10.3UV	-20	10.0	-20.3	-21.2	-21.6	-22.9	10.3	2.0	3.3
PLCC-12.7/11.2UV	-22	12.7	-22.0	-23.1	-23.5	-24.9	11.2	2.1	4.1
<b>PLCC-10.0/12.9UV</b>	<b>-25</b>	<b>10.0</b>	<b>-25.4</b>	<b>-26.6</b>	<b>-27.1</b>	<b>-28.7</b>	<b>12.9</b>	<b>2.0</b>	<b>3.0</b>
<b>PLCC-25.4/25.8UV</b>	<b>-50</b>	<b>25.4</b>	<b>-50.7</b>	<b>-53.1</b>	<b>-54.2</b>	<b>-57.4</b>	<b>25.8</b>	<b>2.0</b>	<b>5.3</b>
PLCC-25.4/30.6UV	-60	25.4	-60.2	-63.0	-64.3	-68.1	30.6	2.0	4.8
<b>PLCC-25.4/38.6UV</b>	<b>-75</b>	<b>25.4</b>	<b>-75.9</b>	<b>-79.5</b>	<b>-81.1</b>	<b>-85.8</b>	<b>38.6</b>	<b>2.0</b>	<b>4.1</b>
PLCC-25.4/40.6UV	-80	25.4	-79.8	-83.6	-85.3	-90.3	40.6	2.0	4.0
<b>PLCC-25.4/51.5UV</b>	<b>-100</b>	<b>25.4</b>	<b>-101.3</b>	<b>-106.0</b>	<b>-108.2</b>	<b>-114.5</b>	<b>51.5</b>	<b>2.0</b>	<b>3.6</b>
<b>PLCC-25.4/64.4UV</b>	<b>-125</b>	<b>25.4</b>	<b>-126.6</b>	<b>-132.6</b>	<b>-135.3</b>	<b>-143.2</b>	<b>64.4</b>	<b>2.0</b>	<b>3.3</b>
<b>PLCC-25.4/77.3UV</b>	<b>-150</b>	<b>25.4</b>	<b>-152.0</b>	<b>-159.2</b>	<b>-162.4</b>	<b>-171.9</b>	<b>77.3</b>	<b>2.3</b>	<b>3.4</b>
PLCC-25.4/103.0UV	-200	25.4	-202.5	-212.1	-216.4	-229.1	103.0	2.3	3.1
PLCC-25.4/128.8UV	-250	25.4	-253.3	-265.2	-270.5	-286.5	128.8	2.0	2.6
PLCC-25.4/515.1UV	-1000	25.4	-1012.9	-1060.7	-1082.0	-1145.6	515.1	2.0	2.2

Bold type indicates items available from stock. Other sizes and materials are available upon request.

## BK7 Plano Concave Lenses

Part No.	Nominal f [mm]	Diameter Ø [mm]	f [mm] (488 nm) n = 1.5222	f [mm] (532 nm) n = 1.51947	f [mm] (633 nm) n = 1.515	f [mm] (1064 nm) n = 1.50664	Curvature rcc [mm]	Center Thickness CT [mm]	Edge Thickness ET [mm]
PLCC-10.0/10.3C	-20	10.0	-19.7	-19.8	-20.0	-20.3	10.3	2.0	3.3
PLCC-12.7/10.3C	-20	12.7	-19.7	-19.8	-20.0	-20.3	10.3	1.1	3.3
PLCC-10.0/12.9C	-25	10.0	-24.7	-24.8	-25.0	-25.5	12.9	2.0	3.0
<b>PLCC-12.7/12.9C</b>	<b>-25</b>	<b>12.7</b>	<b>-24.7</b>	<b>-24.8</b>	<b>-25.0</b>	<b>-25.5</b>	<b>12.9</b>	<b>1.6</b>	<b>3.3</b>
PLCC-12.7/15.5C	-30	12.7	-29.7	-29.8	-30.1	-30.6	15.5	1.9	3.3
PLCC-25.4/20.6C	-40	25.4	-39.4	-39.7	-40.0	-40.7	20.6	2.0	6.4
PLCC-10.0/25.8C	-50	10.0	-49.4	-49.7	-50.1	-50.9	25.8	2.0	2.5
<b>PLCC-12.7/25.8C</b>	<b>-50</b>	<b>12.7</b>	<b>-49.4</b>	<b>-49.7</b>	<b>-50.1</b>	<b>-50.9</b>	<b>25.8</b>	<b>2.1</b>	<b>3.0</b>
<b>PLCC-25.4/25.8C</b>	<b>-50</b>	<b>25.4</b>	<b>-49.4</b>	<b>-49.7</b>	<b>-50.1</b>	<b>-50.9</b>	<b>25.8</b>	<b>2.0</b>	<b>5.3</b>
PLCC-12.7/30.9C	-60	12.7	-59.2	-59.5	-60.0	-61.0	30.9	2.0	2.7
<b>PLCC-25.4/38.6C</b>	<b>-75</b>	<b>25.4</b>	<b>-73.9</b>	<b>-74.3</b>	<b>-74.9</b>	<b>-76.2</b>	<b>38.6</b>	<b>2.0</b>	<b>4.1</b>
PLCC-10.0/51.5C	-100	10.0	-98.6	-99.1	-100.0	-101.7	51.5	2.0	2.2
PLCC-25.4/51.5C	-100	25.4	-98.6	-99.1	-100.0	-101.7	51.5	2.0	3.6
<b>PLCC-25.4/64.4C</b>	<b>-125</b>	<b>25.4</b>	<b>-123.3</b>	<b>-124.0</b>	<b>-125.0</b>	<b>-127.1</b>	<b>64.4</b>	<b>2.0</b>	<b>3.3</b>
<b>PLCC-25.4/77.3C</b>	<b>-150</b>	<b>25.4</b>	<b>-148.0</b>	<b>-148.8</b>	<b>-150.1</b>	<b>-152.6</b>	<b>77.3</b>	<b>3.0</b>	<b>4.1</b>
<b>PLCC-25.4/103.0C</b>	<b>-200</b>	<b>25.4</b>	<b>-197.2</b>	<b>-198.3</b>	<b>-200.0</b>	<b>-203.3</b>	<b>103.0</b>	<b>2.3</b>	<b>3.1</b>
PLCC-50.8/103.0C	-200	50.8	-197.2	-198.3	-200.0	-203.3	103.0	2.3	5.5
<b>PLCC-25.4/128.8C</b>	<b>-250</b>	<b>25.4</b>	<b>-246.6</b>	<b>-247.9</b>	<b>-250.1</b>	<b>-254.2</b>	<b>128.8</b>	<b>4.0</b>	<b>4.6</b>
PLCC-25.4/154.5C	-300	25.4	-295.8	-297.4	-300.0	-305.0	154.5	3.0	3.5
PLCC-25.4/206.0C	-400	25.4	-394.5	-396.6	-399.9	-406.6	206.0	2.6	3.0
<b>PLCC-25.4/257.5C</b>	<b>-500</b>	<b>25.4</b>	<b>-493.1</b>	<b>-495.7</b>	<b>-499.9</b>	<b>-508.3</b>	<b>257.5</b>	<b>3.7</b>	<b>4.0</b>
PLCC-25.4/309.1C	-600	25.4	-591.9	-595.0	-600.1	-610.1	309.1	2.0	2.3
<b>PLCC-25.4/360.6C</b>	<b>-700</b>	<b>25.4</b>	<b>-690.5</b>	<b>-694.2</b>	<b>-700.1</b>	<b>-711.8</b>	<b>360.6</b>	<b>2.1</b>	<b>2.3</b>
PLCC-25.4/386.3C	-750	25.4	-739.7	-743.6	-750.0	-762.5	386.3	2.0	2.2
<b>PLCC-25.4/412.1C</b>	<b>-800</b>	<b>25.4</b>	<b>-789.1</b>	<b>-793.3</b>	<b>-800.1</b>	<b>-813.4</b>	<b>412.1</b>	<b>2.0</b>	<b>2.2</b>

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