

Ball Lenses

Product Description:

Ball lens has a spherical surface with two parameters. One is the diameter “D” and the other is the refractive index “n”. It is a great part to improve coupling between fibers, emitters and detectors. The effective focal length (EFL) from the center of the lens and back focal length (BFL) are given by:

$$EFL = \frac{n \cdot D}{4(n-1)} \quad (1)$$

$$BFL = EFL - \frac{D}{2} \quad (2)$$

The numerical aperture is decided by both the beam size and the part and it is given by:

$$NA = \frac{2 \cdot d(n-1)}{n \cdot D} \quad (3)$$

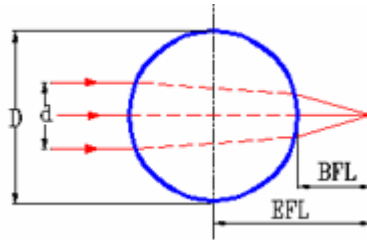
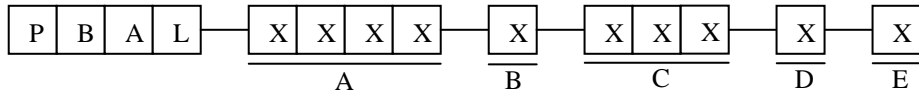


Figure 1: A schematic drawing of a ball lens

Specifications:

Material	BK7
Diameter Tolerance (D)	±0.01 mm
Sphericity	0.001
Typical Diameters	5, 8 mm
Surface Quality	40~20
AR coating	Specified by customer

Ordering Information:



A	Wavelength	630=0630nm
		1310=1310nm
		XXXX=Your application wavelength
B	Material	1=BK7
		0=Special
C	Size	001=5 mm
		002 =8mm
		000=Custom size
D	AR Coating	1=yes
		0=no
E	Mount	1=Yes
		0=no