1.58mm Diameter, Ruby Ball Lens

Sapphire and Ruby Ball Lenses

Stock #46-227 20+ In Stock

- 1 +

C$40.60

ADD TO CART

Volume Pricing	
Qty 1-10	C$40.60 each
Qty 11-49	C$32.55 each
Need More?	Request Quote

Product Downloads

STEP:stp | PDF Drawing:pdf

IGES:igs | Zemax:zar

Zemax:zmx | eDrawing:eprt

Code V:seq | EO Spec Sheet

Download All

General

Type:	Ball Lens

Physical & Mechanical Properties

Diameter (mm):	1.59	**Specific Gravity (g/cm^3):**	3.98
Compressive Strength (psi):	300,000	**Diameter Tolerance (µm):**	±2.54

Optical Properties

Substrate: ⓘ	Ruby Doped Sapphire (Al_2O_3)	**Coating:**	Uncoated
Wavelength Range (nm):	600 - 5500	**Index of Refraction (n_d):**	1.77
Sphericity (µm):	0.625	**Wavelength Range (µm):**	0.6 - 5.5

Material Properties

Coefficient of Thermal Expansion CTE (10^{-6}/°C):	8.4	**Porosity (%):**	0.00

Environmental & Durability Factors

Melting Temperature (°C):	2053.00		

Regulatory Compliance

RoHS 2015:	Compliant	**Certificate of Conformance:**	View

Reach 247:	Compliant

Need different specs or modifications?

Edmund Optics offers comprehensive custom manufacturing services for optical and imaging components tailored to your specific application requirements. Whether in the prototyping phase or preparing for full-scale production, we provide flexible solutions to meet your needs. Our experienced engineers are here to assist—from concept to completion.

Our capabilities include:

- Custom dimensions, materials, coatings, and more
- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

Learn more about our **custom manufacturing capabilities** or submit an inquiry **here.**

Product Details

- Excellent for Severe Environments
- High Strength and Hardness
- High Chemical Stability
- **Sapphire and Ruby Half-Ball Lenses** Also Available

Sapphire and Ruby Ball Lenses are both made from Al203. Ruby or Ruby-Doped sapphire owes its red color to traces of chromium oxide (chromium content for ruby balls is typically >0.5%). While their physical and chemical properties are similar, Sapphire has superior optical transmission. Ruby Ball Lenses are easier to see and handle for physical applications. Sapphire and Ruby Ball Lenses are ideal for improving signal coupling between fibers, emitters, and detectors. They are also used in endoscopy, bar code scanning, ball pre-forms for aspheric lenses, and sensor applications. **Sapphire and Ruby Half-Ball Lenses** are also available.

For general information about ball lens, as well as how to calculate the NA and Focal Length, view **Understanding Ball Lenses.**

Related Products

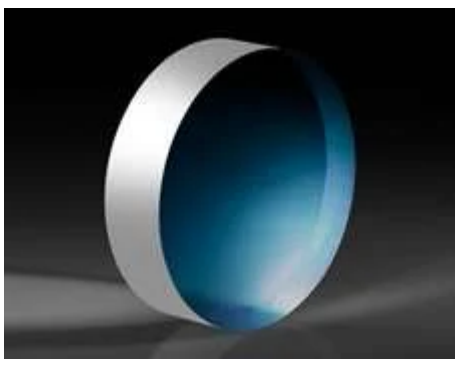
#12-869 - Small Lens Clamp for 1-3mm Dia. Optics
C$224.00

Qty

Frequently Purchased Together

#43-830 - 6.0mm Diameter, Ruby Ball Lens
C$54.60

Qty



#45-463 - 5mm Dia. 1mm Thick Uncoated, 1λ Fused Silica Window
C$105.00

Qty

#46-228 - 2.38mm Diameter, Ruby Ball Lens
C$40.60

Qty

#48-186 - 25.4mm Dia f/8 VIS Coated, Molded Acrylic Aspheric Lens
C$103.60

Qty

Compatible Mounts

	Title	Type	Compare	Stock Number	Price ☐	Buy
MORE+ 	Small Lens Clamp for 1-3mm Dia. Optics	Fixed		#12-869	C$224.00 Request Quote	8 In Stock 1

Check out our full selection of mounts **here**.

Resources

Media Type

- ☐ Application Note
- ☐ Technical Tool
- ☐ FAQ
- ☐ Glossary

APPLICATION NOTE
Anti-Reflection (AR) Coatings

TECHNICAL TOOL
Ball Lens Calculator

APPLICATION NOTE
Understanding Ball Lenses

? FAQ
I am trying to determine whether it is possible to us...

GLOSSARY
Sphericity

TECHNICAL TOOL
Fiber Coupler Calculator

View More

;