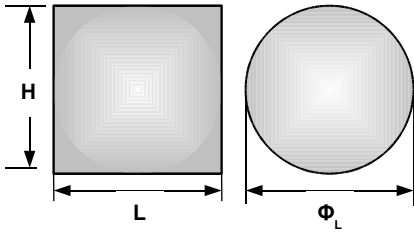


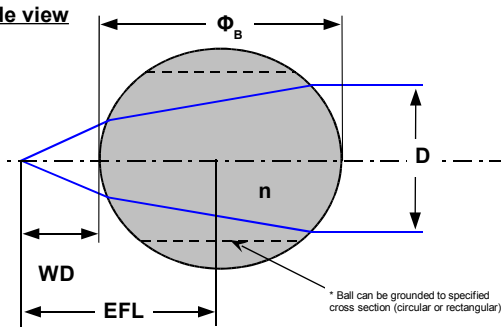
S-TIH53 Ball Lenses

LENS DRAWING

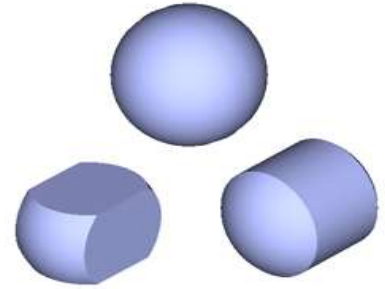
Front view



Side view



3D view



LENS DESIGN INFORMATION

Ball lens

Ordering Code	Dimensions ¹
	Φ _B
SPL_BAL_S-TIH53_Φ _B _AR(λ ₁ -λ ₂)	
Material: S-TIH53	
to be completed	

1. All units are mm

Circular cross-section ball lens (drum lens)

Ordering Code	Dimensions ¹	
	Φ _B	Φ _L
SPL_BAL_S-TIH53_Φ _B _Φ _L _AR(λ ₁ -λ ₂)		
Material: S-TIH53		
to be completed		

1. All units are mm

Rectangular cross section ball lenses

Ordering Code	Dimensions ¹		
	Φ _B	H	L
SPL_BAL_S-TIH53_Φ _B _H×L_AR(λ ₁ -λ ₂)			
Material: S-TIH53			
to be completed			

1. All units are mm

Useful formulae

$$R = \Phi_B / 2$$

$$EFL = \frac{n \cdot R}{2 \cdot (n - 1)}$$

$$WD = \frac{EFL \cdot (2 - n)}{n}$$

$$D = 2 \cdot EFL \cdot NA$$

S-TIH53 refractive index vs. λ

λ (nm)	532	633	810	1064	1550
n	1.8584	1.8395	1.8228	1.8112	1.7997

Legend

EFL: Effective focal length

Φ_B: Ball diameter

Φ_L: Lens diameter

NA: Numerical aperture

R: Ball radius

n: Refractive index

WD: Working distance

H: Lens height

AR(λ₁ - λ₂): Anti-reflection coating wavelength range

D: Beam diameter

L: Lens length

