molex®

Polymicro Sculpted Silica Fiber Tips

Beam Shaping
Integrated Features
Energy Coupling

RESHAPING THE WORLD OF OPTICAL FIBER END TIPS

Molex has the high-tech solution to your optical light beam distribution and positioning needs. Polymicro Components, such as those illustrated here, can be supplied integral to our synthetic fused silica fiber or as a separate component.

Dimensions are typical of silica optical fiber dimensions. Diameters range from approximately 200 to 2000µm. The illustrations are not to exact scale.

Specifications

SCULPTED FIBER TIP EXAMPLES

Fiber Tip Types	Schematics	Typical Tip Location*	Main Function	Applications
"Up" Taper		Proximal	Increase spot size to decrease power density at surface for coupling high power into fiber	Materials processing, tissue cutting
"Down" Taper		Distal	Decrease spot size and increase divergence	Tissue ablation
Lens (Convex)		Proximal or Distal	Increase light collection / Decrease light divergence	Coupling
Lens (Concave)		Proximal or Distal	Increase light divergence	Spread illumination
Lens (Spherical Ball)		Proximal	Increase light collection angle	Sensors, diode laser coupling
Diffuser		Distal	Illuminate 360° through side fo the fiber tip	Photodynamic therapy
Side-Fire		Distal	Redirect light sideways	Tissue ablation and perforation (e.g. Urological procedures)
Angled End		Proximal	Reduce back reflection	Communications, sensors, material processing

* Proximal end of input end. Distal end or output end.

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