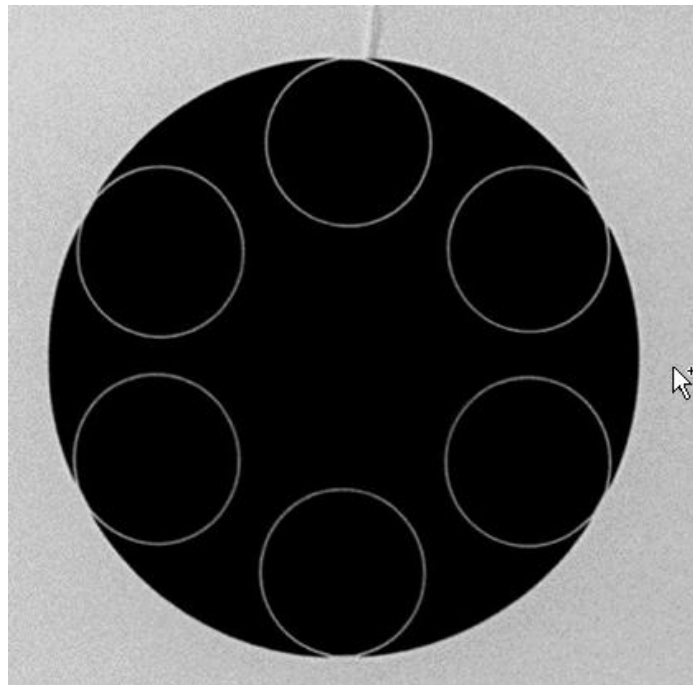




## Hollow core anti-resonant fiber 200-3500nm (core diameter 33um, cladding 250um, pure quartz material)



### ● Product Description

Silica fiber has been widely used in various scenarios for laser transmission, but in many fields, due to the nonlinear effects caused by the material, the light guide window, the damage mechanism of the laser to the fiber material, etc., the laser transmission based on quartz has basically reached the limit of the fiber. Anti-resonant fiber (ARF) is a hollow-core fiber in



which light can be confined to the hollow with a refractive index less than that of the fiber material and transmitted along the fiber axis. Hollow fiber has extremely low nonlinearity, high damage threshold, and small overlap between the internal transmission beam and the surrounding glass, which provides a unique possible solution for fiber-based, very high-power lasers. This will achieve breakthrough applications in laser manufacturing, laser ignition, defense, ultrafast lasers, nonlinear endoscopes/microscopes, and gas-based mid-infrared lasers.

## ● Product features

The light-guiding window extends from ultraviolet to mid-infrared, far exceeding the light-guiding range of traditional solid-core optical fibers. The fiber core is a hollow structure that can be vacuumed or filled with various gases or liquids. It has the potential to exceed the lowest loss of existing quartz optical fibers. It has fast transmission speed and true light-speed communication. It has extremely low nonlinearity and Rayleigh scattering, and extremely high laser damage threshold.

## ● Part Number

MP-MOF-33/250/270

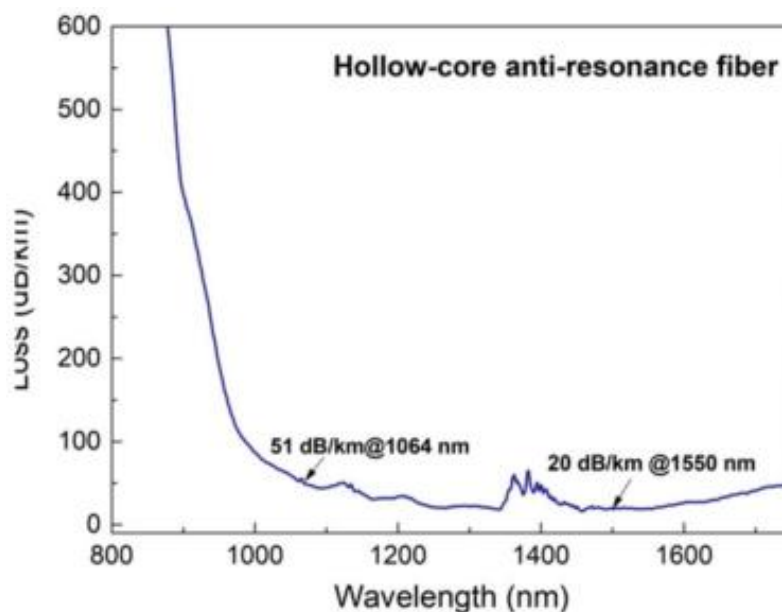
## ● Application area

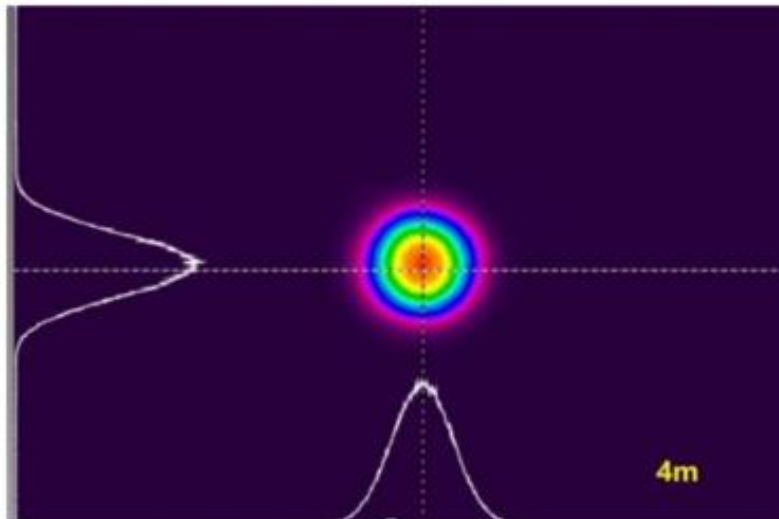
High-power laser energy transmission: distortion-free transmission of ultrafast laser pulses、 Development of new light sources: supercontinuum spectrum, dispersion wave generation from extreme ultraviolet to deep ultraviolet、 Optical research on soliton blue shift, gas plasma, high-order harmonics and other phenomena、 Ultrafast laser pulse compression、 Low-loss high-speed optical communication、 Fiber sensing, hollow-core fiber probes

## ● Core parameters

Core diameter	Cladding diameter
33±2μm	250±3μm

## ● General Parameters





### Parameter

PN#	MP-MOF-33/250/270
Numerical aperture (NA):	0.03-0.1
Light guide interval:	200nm~3500nm (theoretical value)
Attenuation coefficient:	<20 dB/km @1550 nm
Core diameter:	33±2μm
Cladding diameter:	250±3μm
Coating diameter:	270±3μm
Material:	Pure quartz
Coating material:	Polyimide/acrylic resin
Long-term use temperature:	-65~300 °C (polyimide)
Short-term tolerance temperature:	400 °C (polyimide)
<b>Fiber structure can be customized: mid-infrared applications, ultraviolet applications, etc.</b>	