

Multimode Optical Fiber Shutter

All-fiber multimode shutters for 800nm and 1300nm



FEATURES:

- Non-invasive
- Low insertion loss
- High optical power handling
- High isolation
- High return loss

APPLICATIONS:

- Optical overload protection
- Warm-up protection
- Optical power safety
- Receivers
- Integrated modules

Phoenix Photonics miniature multimode optical fiber shutter is designed to meet the optical circuit protection needs of multimode fiber LAN and sensor systems. It uses All-Fiber Evanescent Field technology to provide excellent optical isolation in the 'Off' condition while allowing minimal impact on signal quality for the 'On' state. Since the technology is non-invasive, i.e. the signal path is not interrupted, near zero Back Reflections are assured. Simple to operate the device provides a low cost, small footprint shutter option in 800nm and 1300nm systems.

EVANESCENT FIELD TECHNOLOGY

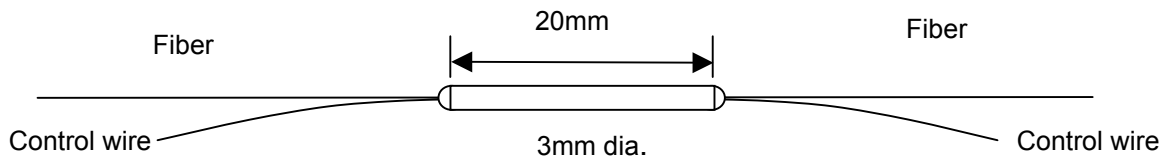
Phoenix utilizes evanescent field technology to produce low loss, high performance, non-invasive components. Shutters are produced by replacing the cladding in the locally processed region of the fiber with a material with a refractive index, which can be modified thermally. By applying a current the device switches between guiding and non-guiding conditions, which means no absorbers are required, facilitating high power operation.

SPECIFICATION:	Units	Min.	Typical	Max.
Wavelength	nm	800nm & 1300nm		
Insertion Loss – ‘on’	dB		0.5	1.0
Maximum insertion loss (biased)	dB		50	
Isolation – ‘off’	dB	40		
Return Loss	dB		>70	
Input Optical Power	dBm			25
Switch ‘off’ (IL – 40dB) @70°C	ms		500	1000
Switch ‘on’ (40dB – IL) @-5°C	ms		600	1000
Heater resistance	Ω		40	
Heater current	mA			80
Electrical power	mW		250	320
Operating Temperature Range	°C	- 5		70
Storage Temperature	°C	- 40		85
Fiber Type	Corning 62.5/125			
Input & Output Fiber Lengths	mm		1000	

SWITCHING CHARACTERISTICS:

The evanescent field shutter requires a bias current to reach the switching region dependent on the environmental temperature. Switch-on (closed to open) is slowest at minimum temperature, whilst switch-off (open to closed) is slowest at maximum temperature. Times specified above are to open the shutter from 0mA to minimum attenuation and to close the shutter from minimum insertion loss to maximum attenuation under worst-case conditions. Actual switching times can be much faster.

PACKAGING STYLE:



ORDER CODE:

S **H** **U** **T** - **M** **I** - **M** **M**