MEMS SHUTTER ATTENUATOR

DiCon's MEMS Shutter Attenuator is an ultra-compact, high precision, variable optical attenuator (VOA), only 15 mm long x 3.5 mm in diameter.

Based on DiCon's proven MEMS technology, the MEMS Shutter Attenuator utilizes a lens to collect and collimate light from the input fiber, which then travels to DiCon's high precision, ultra-stable MEMS mirror. The MEMS mirror reflects the light and directs it back through the lens, and launches it into the output fiber. Attenuation is achieved by steering the light onto or off of the output fiber by tilting the MEMS mirror via an analog control voltage.

FEATURES

- Ultra-Compact: 15 mm Long x 3.5 mm Diameter
- Proven DiCon MEMS Mirror Technology
- Lifetime > 1 Billion Cycles
- High Reliability

APPLICATIONS

DiCon's MEMS Shutter Attenuator is ideal for use as a shutter for transmitters. They are also useful for distributed power equalization or input power adjustment in erbium-doped fiber amplifiers.

DiCon
FIBEROPTICS

MEMS SHUTTER ATTENUATOR

OPTICAL SPECIFICATIONS[1]
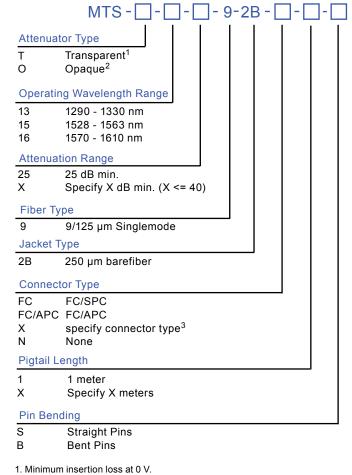
PARAMETER	RATING
Excess Loss at ON State (0 VDC)	0.6 dB max.
Attenuation at OFF State (5 VDC)	25 dB min.
WDL at ON State	0.1 dB max.
PDL at ON State[2]	0.1 dB max.
Back Reflection	-50 dB max.
Optical Power	500 mW max.
Response Time	2 ms max.
Repeatability[3]	0.1 dB max.
Durability	1×10^9 cycles min.
Fiber Type	9/125 single mode fiber
Operating Temperature	-5°C to +70°C
Storage Temperature	-40°C to +85°C

1. All Specifications at room temperature, without connectors
2. Operation from 1290 - 1330nm adds 0.1dB
3. Repeatability is defined after 100 cycles

ELECTRICAL SPECIFICATIONS

PARAMETER	RATING
Actuation type	Non-latching
DC Drive Voltage	0-5 VDC
Voltage Damage Threshold	10 VDC max.
Resistance	2 MΩ min.
Power Consumption	20 uWatt max.

ORDERING INFORMATION

MTS - ☐ - ☐ - ☐ - 9 - 2B - ☐ - ☐ - ☐

Attenuator Type

T	Transparent[1]
O	Opaque[2]

Operating Wavelength Range

13	1290 - 1330 nm
15	1528 - 1563 nm
16	1570 - 1610 nm

Attenuation Range

25	25 dB min.
X	Specify X dB min. (X <= 40)

Fiber Type

9	9/125 µm Singlemode

Jacket Type

2B	250 µm barefiber

Connector Type

FC	FC/SPC
FC/APC	FC/APC
X	specify connector type[3]
N	None

Pigtail Length

1	1 meter
X	Specify X meters

Pin Bending

S	Straight Pins
B	Bent Pins

1. Minimum insertion loss at 0 V.
2. Minimum insertion loss at 5 V for 25dB min. attenuation. (high isolation at 0 V).
3. Connector Types: FC/UPC, SC, SC/APC, SC/UPC, LC, LC/UPC, MU/UPC.

MECHANICAL DIMENSIONS
(Units: mm)

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