DiCon Fiberoptics, Inc.

MINI ATTENUATOR

Ultra-compact MEMS VOA packaging

DiCon's **Mini 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 Mini 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.

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

Applications

DiCon's Mini Attenuator is an ideal ultra-compact solution for power adjustments in erbium-doped fiber amplifiers, and is also useful for distributed power equalization.

ORDERING INFORMATION

MTS - C - □ - □ - □ - 9 - 2B - □ - □ - □

Housing Type

C	Cylindrical

Attenuator Type

T	Transparent*
O	Opaque**

**Minimum insertion loss at 0 V*
***Minimum insertion loss at 6-7 V (high isolation at 0 V)*

Test Wavelength

C	1550 nm
L	1590 nm

**Custom Wavelength Ranges Available*
**Use "/" to add multiple wavelengths (E.g., C/L)*

Attenuator Range

30	30 dB min.
40	40 dB min.
S30*	30 dB Off state isolation
S40*	40 dB Off state isolation

**For On/Off functionality only, the WDL and PDL specifications are not applicable*

Fiber Type

9	9/125 µm SMF

**Other fiber options available upon request*

Jacket Type

2B	250 µm bare fiber

Connector Type

N	None
FC	FC/UPC
FC/APC	FC/APC
LC	LC/UPC
LC/APC	LC/APC
SC	SC/UPC
SC/APC	SC/APC

**Other connector types available upon request*

Pigtail Length

1	1 Meter
X	Specify X Meters

**Tolerance is ±0.05 m*

Pin Bending

S	Straight Pins
B	Bent Pins

DiCon® FIBEROPTICS

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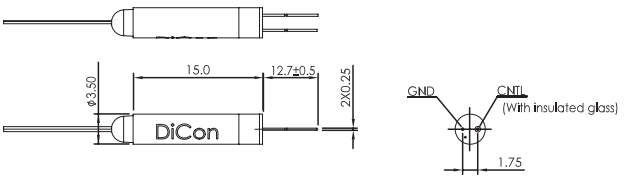
OPTICAL SPECIFICATIONS[1]

Insertion Loss[2]		0.6 dB max.[3]
WDL[5]	0 to 1 dB	0.2 dB max.[4]
	1 to 5 dB	0.3 dB max.[4]
	5 to 10 dB	0.5 dB max.[4]
	10 to 20 dB	0.8 dB max.[4]
PDL	0 to 15 dB	0.2 dB max.[4]
	15 to 20 dB	0.3 dB max.[4]
Attenuation Slope		25 dB/V max.
Back Reflection		-50 dB max.
Optical Power		500 mW max.
Response Time		2 ms max.
Repeatability[6]		0.1 dB max.
Durability		1 x 10^9 cycles min.
Fiber Type		9/125 singlemode, Corning ClearCurve ZBL

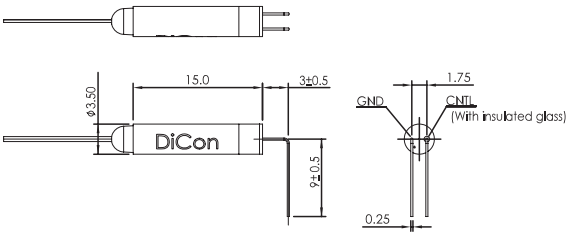
1. All specifications at room temperature
2. Excluding connector loss. Measured with 3-jumper method or equivalent (See TIA/EIA 526-7)
3. Operation in the L-band range adds 0.2 dB
4. Operation in the L-band range adds 0.1 dB
5. WDL is defined within Test Wavelength ±20 nm
6. Repeatability is defined after 100 cycles

Dimensions in mm

Straight Pins



Bent Pins



ELECTRICAL SPECIFICATIONS

Actuation type	Non-latching
DC Drive Voltage	0-7 VDC
Voltage Damage Threshold	10 VDC max.
Resistance	2 MΩ min.
Power Consumption	20 uWatt max.

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-5 to 70°C
Storage Temperature	-40 to 85°C