MEMS OPTICAL ATTENUATOR

DiCon's MEMS Optical Attenuator is based on a micro-electro-mechanical system (MEMS) chip. The MEMS chip consists of an electrically movable mirror on a silicon support. A voltage applied to the MEMS chip causes the mirror to rotate, which changes the coupling of light between the input and output fibers of the MEMS Optical Attenuator.

FEATURES

- Small attenuator package
- Based on DiCon's proven MEMS platform
- Available in opaque or transparent versions
- Qualified to GR-1221

APPLICATIONS

MEMS Optical Attenuators are used for distributed power equalization within OADMs, MUX/DMUXes, Band Equalizers, Channel Equalizers, Optical Cross-Connects, Line Cards and Transponders. MEMS Optical Attenuators can also be used for input power adjustment in erbium-doped fiber amplifiers.

DiCon FIBEROPTICS

MEMS OPTICAL ATTENUATOR

OPTICAL SPECIFICATIONS[1]

PARAMETER		RATING	
Excess Loss		0.8 dB max	
WDL Flatness[2]	Superior	0 to 1 dB	0.2 dB max.
		1 to 5 dB	0.3 dB max.
		5 to 10 dB	0.5 dB max.
		10 to 20 dB	0.8 dB max.
	Regular	0 to 1 dB	0.3 dB max.
		1 to 5 dB	0.5 dB max.
		5 to 10 dB	0.8 dB max.
		10 to 20 dB	1.2 dB max.
	Fine[4]	0 to 20 dB	0.2 dB max.
PDL	Superior & Fine	0 to 15 dB	0.15 dB max.[3]
		15 to 20 dB	0.2 dB max.[3]
	Regular	0 to 15 dB	0.2 dB max.[3]
		15 to 20 dB	0.3 dB max.[3]
Attenuation Slope		20 dB/V max.	
Back Reflection		-50 dB max.	
Optical Power		500 mW max.	
Response Time		2 ms max.	
Repeatability[5]		0.1 dB max.	
Durability		1 x 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. WDL is measured from CWL
3. Operation from 1290 - 1330nm or 1570-1610 nm adds 0.1dB
4. Maximum change of each 2 nm segment within the operating range
5. Repeatability is defined within 100 cycles

ORDERING INFORMATION

MT- C -□-□-□-□-9-□-□-□-□

Housing Type
C Cylindrical

Attenuator Type
T Transparent[1]
O Opaque[2]

Operating Wavelength Range
13 1290 - 1330 nm
15 1525 - 1570 nm
16 1570 - 1610 nm
Custom Wavelength Ranges Available

Attenuator Range
30 30 dB min.[3]
X Specify X dB min. (X <= 40)

Flatness Type
S Superior broad band flatness
R Regular broad band flatness
F Fine narrow band flatness

Fiber Type
9 9/125 µm Singlemode

Jacket Type
2B 250 µm barefiber
9L 900 µm loosetube

Connector Type
FC FC/SPC
FC/APC FC/APC
X Specify connector type[4]
N None

Pigtail Length
1 1 meter
X Specify X meters

Pin Bending
S Straight Pins
B Bent Pins

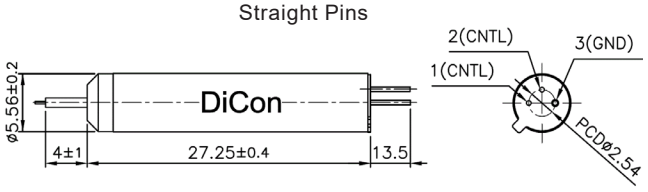
1. Minimum insertion loss at 0 V.
2. Minimum insertion loss at 6 - 7 V (high isolation at 0 V).
3. Transparent type DC drive votlage is 0-5 VDC for up to 30 dB of attenuation
4. Connector Types: FC/UPC, SC, SC/APC, SC/UPC, LC, LC/UPC, MU/UPC.

ELECTRICAL SPECIFICATIONS

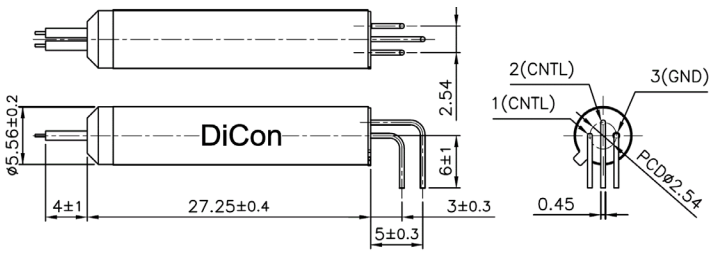
PARAMETER	RATING
Actuation type	Non-latching
DC Drive Voltage	0-7 VDC
Voltage Damage Threshold	10 VDC max.
Resistance	2 MΩ min.
Power Consumption	20 uWatt max.

MECHANICAL DIMENSIONS

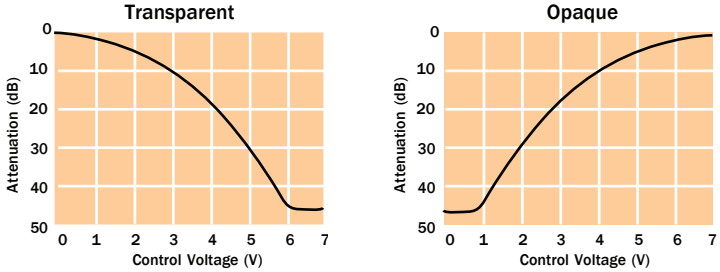
Straight Pins



Bent Pins



OPTICAL PERFORMANCE



SPECIFICATIONS /ORDERING INFORMATION

MEMS OPTICAL ATTENUATOR