W2 Optronics,Inc.

MEMS Passive Optical Device
MEMS VOA

1. Description

W2 designs and manufactures innovative, photonic integrated circuit (PIC) based MEMS (micro electro-mechanical systems) Variable Optical Attenuator (VOA) for next generation, dynamically configurable optical networks.

W2's MEMS products base on electrostatic MEMS technology, The reflective mirror MEMS technology enables the creation of products with high attenuation levels and can be configured as bright or dark devices. When combined with the W2 advanced packaging and manufacturing capabilities, this results in a new category of MEMS components that are designed to exceed specifications for performance, compactness, manufacturability and reliability.

2. Features

Low insertion loss
Low polarization dependent loss
Compact design
Low power consumption
Insensitive to shock and vibration

3. Applications

Power control and equalization in multi channel systems
Gain-tilt control in EDFAs
Receiver protection
Channel on/off switching
OADM

4. Compliance

Telcordia GR-1221-CORE
RoHS

5. Performance specifications

Parameter	Unit	Specification	Note
Wavelength Range	nm	1530 - 1570	C band
		1570 - 1610	L band
Attenuation Type		Bright or Dark	
Attenuation Range	dB	≥30	
Blocking State Attenuation	dB	≥40	Dark type
Insertion Loss	dB	≤0.7 (0.5 Typical)	Excluding Connectors
Attenuation Resolution		Continuous	
Wavelength Dependent Loss	dB	≤0.3	@<0dB Att.
		≤1.5	@<20dB Att.
Ripple	dB	≤0.05	Within 0.4nm window @20dB
Polarization Dependent Loss	dB	≤0.1	@<0dB Att.
		≤0.3	@<20dB Att.
Temperature Dependent Loss	dB	≤0.7	@<0dB Att. compare with RT
		≤1.0	@<20dB Att. compare with RT
Return Loss	dB	≥45	
PMD	ps	≤0.1	
Response Time	ms	≤3	10-90% Optical Power
Optical Power Handling	mW	300	
Driving Voltage	VDC	6V or 15V	
Power Consumption	mW	≤2	
Operating Temperature	ºC	0 to 70	
Storage Temperature Range	ºC	-40 to 85	

6. Dimensions diagram