



Variable Optical Attenuator

coaxial design

OVERVIEW

Sercalo's fiber optic CV type Variable Optical Attenuators are based on a coaxial design. The operation principle is based on an electrostatic MEMS mirror. A voltage between 0-9 V on the drive pin sets the optical attenuation. When power is removed the VOA returns into its default state, which is either normally open (standard variant) or high attenuation (off variant)-

The MEMS technology results in low insertion loss. The MEMS component is hermetically sealed. The part is designed to conform to Telcordia 1221 reliability standards. No epoxy is present in the optical path. The miniature package is optimized for low cost production using laser welding techniques and withstands rugged environments. It's intended for direct mounting on printed circuit boards.

The component is compliant to ROHS requirements 2011/65/EU.

FEATURES

- Low insertion loss
- Reliable
- 0-5 V
- ROHS compliant

APPLICATIONS

- *Telecom*
- *Instrumentation*
- *Test and measurement*

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Sercalo

Sercalo's COAXIAL TYPE VOA is non latching and returns to the default position at power-off, i.e. the standard variant returns to the minimum insertion loss position, whereas the “of” variant return to the high attenuation state (I.e blocking the light). The VOA works over a single band at specified performance. When the wavelength range covers more than one band, the insertion loss increases, but the attenuation function is still performed.

TECHNICAL SPECIFICATIONS for Single Mode fiber

	Unit	Min	Typ	Max
Optical Specifications				
Wavelength range ¹ (C Band type)	nm	1510		1580
Wavelength range ¹ (L Band type)	nm	1580		1650
Wavelength range ¹ (W, all 4 bands)	nm	1270		1620
Insertion Loss ² @ min. attenuation	dB		0.3	1.0
Attenuation @ 8V	dB	20	30	
Wavelength d. Loss @ 10 dB	dB		0.3	
Polarisation d. Loss @ 10 dB	dB		0.15	
Return loss	dB	50	55	
Switching time	ms		0.5	2
Cycle Rate	Hz		50	100
Repeatability ³	dB			0.1
Durability	cycles	No wear out		
Electrical Specifications				
Max. Supply voltage	V			30
ESD Protection	V	500		
Package				
Operation temperature	°C	-10		70
Storage temperature	°C	-40		85
Pigtail length	cm	50		100
Weight	g	75		
Dimensions diameter x Length	mm	6 x 21		
ROHS Compliance		2011/65/EU (no exceptions)		

¹ Insertion loss is optimized for one band. If the VOA is operated over two bands add 0.2 dB to IL. If the switch is operated over all four bands add 0.5 dB to IL. ² Values for standard range at 25 °C, without connectors. ³ For constant temperature and polarization. ⁴ Through onboard pull-up resistor.

ORDERING INFORMATION (this component is not offered for sale to customers in the USA)



Switch type:

CVC = C-band, 1510 – 1580 nm
 SCW = wide band, 1270-1620 nm
 SCL = non-latching, 1580 – 1670 nm
 SCS = non-latching, 1460 – 1530 nm
 SCO = non-latching, 1270 – 1350 nm
 SCF = non-latching

Open or closed:

- = open
 of = closed

Fiber type:

9 = SMF28
 X = SMF28Ultra
 4 = SM600
 7 = SM980

other fiber types and wavelengths upon request

Fiber sleeve type:

B = 250 um bare fiber

