Optical Variable Attenuator
OVA-650

The OVA-650 is a compact variable optical attenuator that uses a stepper motor for accurate electrical control.* The unit has high resolution, low insertion loss, low PDL, and exhibits extremely low wavelength dependence. Two package designs are available with effective height of 12mm and 8mm (Dual-line pins on the bottom, Single-line pins on the side with screw tabs) respectively. This device can be easily mounted onto a printed circuit board for system integration.

* santec - US patent number 6442324.

Features

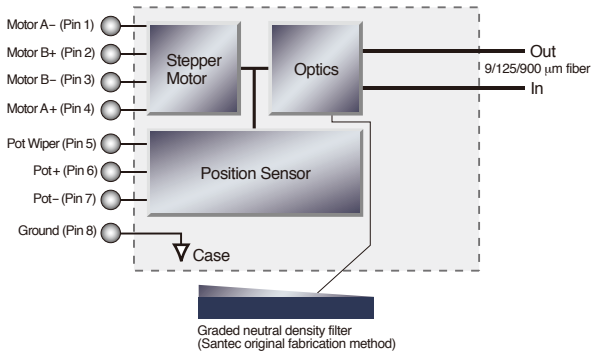
- Low loss, low PDL, low wavelength dependence
- High reliability (Hermetically sealed)
- Latching operation
- Compact size suitable for system integration
- Telcordia GR-1221 qualified

Applications

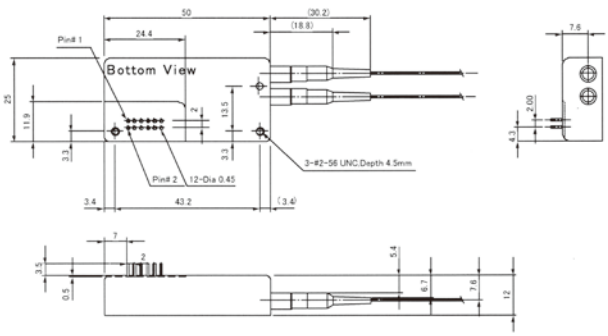
- Power equalization or gain-tilt control in optical amplifiers
- Transmitter power control
- Receiver power control
- Power control in OADM's.

Configuration

Interface pin-out



Dimensions



Pin Assignments

Pin No.	Function	Pin No.	Function
1	Motor Coil A-	7	Pot -
2	Motor Coil B+	8	Case Ground
3	Motor Coil B-	9	Not in use
4	Motor Coil A+	10	Not in use
5	Pot Wiper	11	Not in use
6	Pot +	12	Not in use

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Optical Specifications

Parameter	Units				Notes
Max Attenuation Range	-	dB	15	30	-
Resolution	Max.	dB	0.1		-
Insertion Loss	Max.	dB	0.6		Excluding connectors
Return Loss	Min.	dB	50		-
Polarization Dependent Loss (PDL)	Max.	dB	0.2		-
Wavelength Dependence of Attenuation	Max.	dB	0.2(0 -15dB Atten.)		1525 - 1575 nm or 1565 - 1610nm
Temperature Dependence of Attenuation	Max.	dB	0.2		Relative to 25 deg.C
Polarization Mode Dispersion (PMD)	Max.	psec	0.1		-
Response Speed	-	ms	100		To change 3 dB Atten.
Repeatability of Attenuation Setting	Max.	dB	0.1		
Backlash	Max.	dB	0.2		-
Operating Temperature	-	deg.C	0 to + 70		<95% humidity
Maximum Optical Input Power	Max.	dBm	23		

Electrical and Mechanical Specification

Parameter	Units		
Maximum Electrical Power Consumption	Max.	W	2.5
Maximum Electrical Power to Hold	Max.	mW	30
Position Sensor	Max.	kΩ	12
Fiber	-	-	SMF-28 equivalent
Size	-	mm	50 x 25 x 12
Weight	Max.	g	50

Ordering Code

OVA-650 - A - B - C - D - E

- E: Connector Polish (E) : **0** : None / **S** : SPC / **A** : APC (Angled PC)
- D: Connector Type (D) : **00** : None / **FC** : FC / **SC**: SC / **LC** : LC / **MU** : MU
- C: Fiber Length (C) : **10** : 1.0m (Standard) / **: other
- B: Fiber Jacket (B) : **09** : 0.9mm Tight buffer (Standard) / **02** : 0.25mm
- A: Attenuation Range (A) : **30** : 30dB Attenuation range (Standard) / **15:** 15dB Attenuation range

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