

1xN MEMS Switch, Coaxial Design Bare Component

Features

- Low Insertion Loss
- Reliable
- ROHS Compliant
- Miniature Package withstands Rugged Environments

Applications

- Telecom
- Test and Measurement
- Instrumentation

OPNETI fiber optic 1xN switches are bidirectional opto-mechanical switches based on a coaxial design where a single MEMS mirror redirects light from a common fiber to one of N ports. The underlying MEMS technology results in low insertion loss and low crosstalk between channels while keeping a constant switching performance over life. In the bare switch (BMSW type) the state is set using 4 lines of 0-40V analog voltage. The internal MEMS is NOT ESD protected and needs special care during handling. The MEMS component is hermetically sealed and the fiber collimator is laser welded for superior long term stability. No epoxy is present in the optical path.

The COAXIAL TYPE 1xN switch is non latching and breaks the optical connection at power-off, i.e. the common port is not routed to any port and the optical path is open. The switch works over a single band at specified performance. When the wavelength range covers more than one band, the insertion loss increases, but the switching function is still performed. Information in this datasheet is believed to be correct but The reserves the right to change specifications without notice at any time.

Specifications

Parameters	Unit	Single Mode
Wavelength Range ¹	nm	1240~1650
Insertion Loss	1x4 ²	≤1.2 (Typ. 0.5)
	1x8 ²	≤1.5 (Typ. 0.6)
	1x12 ²	≤1.5 (Typ. 0.6)
	1x16 ²	≤1.5 (Typ. 0.6)
	1x36 ²	≤1.5 (Typ. 0.6)
Polarization Dependent Loss	dB	≤0.1
Return Loss	dB	≥50
Cross Talk	dB	≥50 (Typ. 60)
Switch Time	ms	50 (Typ. 20)
Repeatability ³	dB	±0.01
Durability	cycles	No Wear Out
Voltage before Breakdown	V	≤45
Drive Voltage	V	0~42
No. Pins Requiring Drive Voltage		4
ESD Level (not ESD Protected)	V	≤50
Operation Temperature ⁴	°C	-10~+70 or -50 ~ +85
Storage Temperature	°C	-50 ~ +85
Pigtail Length	cm	50~100
Weight	g	75
Dimensions (Length x Diameter)	mm	35x6
ROHS Compliance		2011/65/EU (No Exceptions)

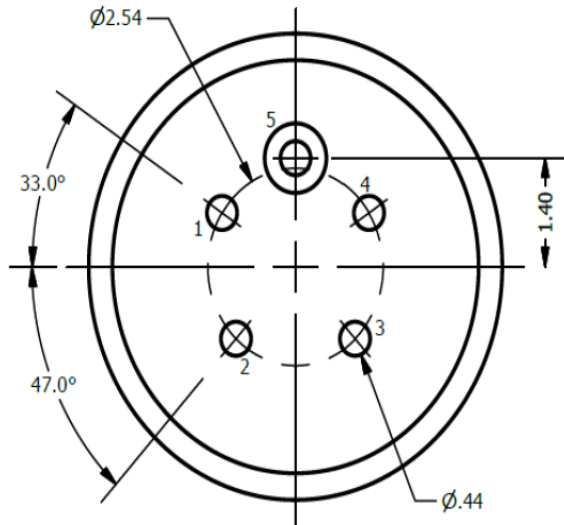
¹ Insertion Loss is optimized for 1300~1570nm. Outside this range, add 0.3dB to the Max. IL.

² Values for standard range at 25°C, without connectors.

³ For constant temperature and polarization.

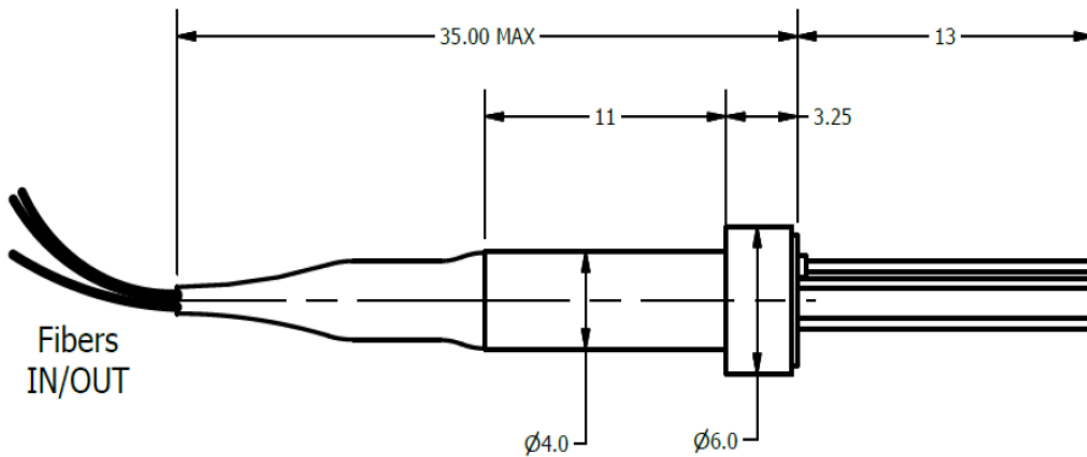
⁴ To achieve good performance in -50~85, temperature sensor is needed on PCB, Soft to be specially upgraded.

PINOUT



CONNECTOR PINOUT	
PIN	Description
1	X-
2	Y-
3	X+
4	Y+
5	GND

PRODUCT DIMENSIONS (mm)



Ordering Information

BMSW- ①①①-②②②②②②②②②②②②②③-④④④④-⑤-⑥-⑦⑦-⑧

①	Port Type	1x4; 1x8; ...; 1x36;
②	Wavelength	1240~1650;
③	Mode	N=Non-Latching;
④	Pigtail Type	250=250um Fiber, R=8 Core Ribbon Fiber;
⑤	Fiber Type	1=SMF-28; SM600; SM980;
⑥	Fiber Length	1=1m;
⑦	Connector	NE=None; FA=FC/APC; FC=FC/UPC; SA=SC/APC; SC=SC/UPC; LC=LC/UPC; XX=Others;
⑧	Operation Temperature	N=-10~70°C; W=-50~80°C;