

## 780nm 1x1 SM Mechanical Optical Switch

780nm 1x1 SM Mechanical Optical Switch is an optoelectronic passive product which can switch or operate the light signal in the optical transmission line or integrated optical path. It's widely used in fiber communication, fiber optic sensor and optical testing systems, high power type is available upon request.

### Application:

Fiber Communication  
Fiber Optic Sensor  
Testing System  
Lab & Research

### Features:

Low Insertion Loss  
High Switching Speed  
RoHs Compliant  
High Reliability



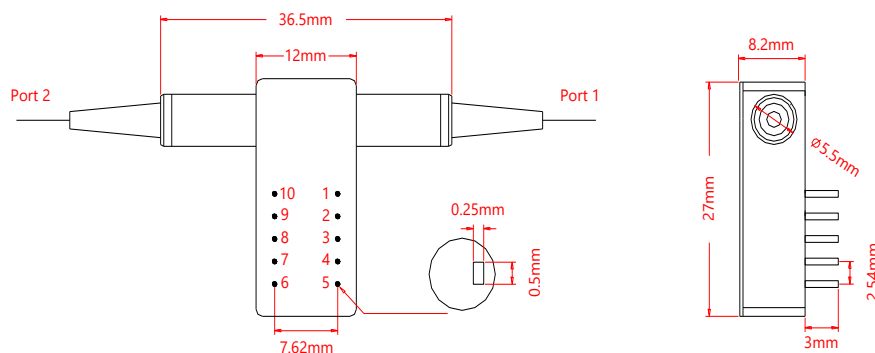
### Specification:

| Parameter                        | Symbol    | Value             | Unit  |
|----------------------------------|-----------|-------------------|-------|
| Center Wavelength                | $\lambda$ | 780               | nm    |
| Bandwidth                        | BW        | $\pm 10$          | nm    |
| Typ. Insertion Loss              | IL        | 0.8               | dB    |
| Max. Insertion Loss              | IL        | 1.2               | dB    |
| Max. Polarization Dependent Loss | PDL       | 0.1               | dB    |
| Max. Wavelength Dependent Loss   | WDL       | 0.25              | dB    |
| Max. Temperature Dependent Loss  | TDL       | 0.25              | dB    |
| Min. Return Loss                 | RL        | 50                | dB    |
| Min. Cross Talk                  |           | 50                | dB    |
| Max. Repeatability               |           | $\pm 0.02$        | dB    |
| Power Supply                     |           | 3.0 or 5.0        | V     |
| Min. Life Time                   |           | $10^7$            | Cycle |
| Max. Switching Time              |           | 8                 | ms    |
| Max. Optical Power (CW)          | P         | 500 or customized | mW    |
| Max. Tensile Load                |           | 5                 | N     |
| Fiber Type                       |           | HI 780            | -     |
| Operating Temperature            | T         | -5~70             | °C    |
| Storage Temperature              | T         | -40~85            | °C    |
| Package Dimension                |           | L27xW12xH8.2      | mm    |

Notice: Above specifications are tested at center wavelength without connector in room temperature @23°C.

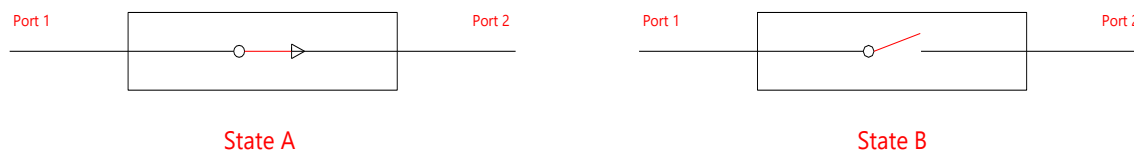
For devices with connectors, IL will be 0.3dB higher, RL will be 5dB lower.

### Drawing:



**Pin Information:**

| Type for 1x1        | Optical Path    | Electric Drive |       |       |        | Status Sensor |         |         |         |
|---------------------|-----------------|----------------|-------|-------|--------|---------------|---------|---------|---------|
|                     |                 | Pin 1          | Pin 5 | Pin 6 | Pin 10 | Pin 2-3       | Pin 3-4 | Pin 7-8 | Pin 8-9 |
| <b>Latching</b>     | Port 1 - Port 2 | V+             | GND   | -     | -      | Open          | Close   | Close   | Open    |
|                     | Light Close     | -              | -     | GND   | V+     | Close         | Open    | Open    | Close   |
| <b>Non-latching</b> | Port 1 - Port 2 | V+             | -     | -     | GND    | Open          | Close   | Close   | Open    |
|                     | Light Close     | -              | -     | -     | -      | Close         | Open    | Open    | Close   |

**Optical Path:****Electric:**

| Type            | Voltage  | Current | Resistance |
|-----------------|----------|---------|------------|
| 5V Latching     | 4.5~5.5V | 36~44mA | 125Ω       |
| 5V Non-latching | 4.5~5.5V | 26~32mA | 175Ω       |
| 3V Latching     | 2.7~3.3V | 54~66mA | 50Ω        |
| 3V Non-latching | 2.7~3.3V | 39~47mA | 70Ω        |

**Ordering Information (Part Number):**SMSW-**WWW**-**M**-**D**-**J**-**LL**-**CC**

| <b>WWW</b>                                                                               | <b>CC</b>     | <b>M</b>                         | <b>D</b>         | <b>J</b>                                     | <b>LL</b>                                                        | <b>CC</b>                                                                                                           |
|------------------------------------------------------------------------------------------|---------------|----------------------------------|------------------|----------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Wavelength                                                                               | Configuration | Mode                             | Driving Voltage  | Fiber Jacket                                 | Fiber Length                                                     | Connector                                                                                                           |
| 780 - 780nm<br>785 - 785nm<br>790 - 790nm<br>793 - 793nm<br>795 - 795nm<br>SSS - Specify | 11 - 1x1      | L - Latching<br>N - Non-latching | 3 - 3V<br>5 - 5V | B - 250um Bare Fiber<br>9 - 900um Loose Tube | 05 - 0.5m<br>10 - 1.0m<br>15 - 1.5m<br>20 - 2.0m<br>SS - Specify | NE - None<br>FA - FC/APC<br>FU - FC/UPC<br>SA - SC/APC<br>SU - SU/APC<br>LA - LC/APC<br>LU - LC/UPC<br>SS - Specify |