# NanoSpeed™ Broadband 1x2 Fiberoptic Switch

(patent pending)

## Product Description

The NS broadband Series 1x2 solid-state fiber optic switch connects optical channels by redirecting an incoming optical signal into a selected output optical fiber. This is achieved using patent pending non-mechanical configurations with solid-state all-crystal designs, which eliminates the need for mechanical movement and organic materials. The configuration eliminates waveplates for a wide wavelength operation. The NS fiberoptic switch is designed to meet the most demanding switching requirements of ultra-high reliability, fast response time, continuous switching and bidirectional operation.

The device can be driven by a cost effective circuit with 12V input voltage and 0-5 V control signal

## Features

- Solid-State high speed
- Ultra-high reliability
- Low insertion loss
- Compact size
- Low cost
- Low power consumption
- Simple driver

## Applications

- Optical blocking
- Configurable operation
- Instrumentation

## Performance Specifications

| NS Broadband 1x2 Switch | Min | Typical | Max | Unit |
|---|---|---|---|---|
| Operation Wavelength | 780 | | 2000 | nm |
| Insertion Loss | | 0.8 | 1.2 | dB |
| Cross Talk | 20 | 25 | | dB |
| Polarization Dependent Loss | | 0.15 | 0.35 | dB |
| IL Temperature Dependency | | 0.25 | 0.5 | dB |
| Polarization Mode Dispersion | | 5 | 6 | ps |
| Return Loss | 45 | 50 | | dB |
| Response Time (Rise, Fall) | | | 300 | ns |
| Repetition Rate* | DC | 5 | | KHz |
| Operating Temperature | -5 | | 70 | $^o$C |
| Optical Power Handling | | 300 | 500 | mW |
| Storage Temperature | -40 | | 85 | $^o$C |
| Package Dimension | | 46.3x16.3x8.0 | | mm |

* Standard driver. High repetition rate (up to 500 KHz) is available with special circuit.

**RoHS Compliant**

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## Mechanical Dimensions (mm)
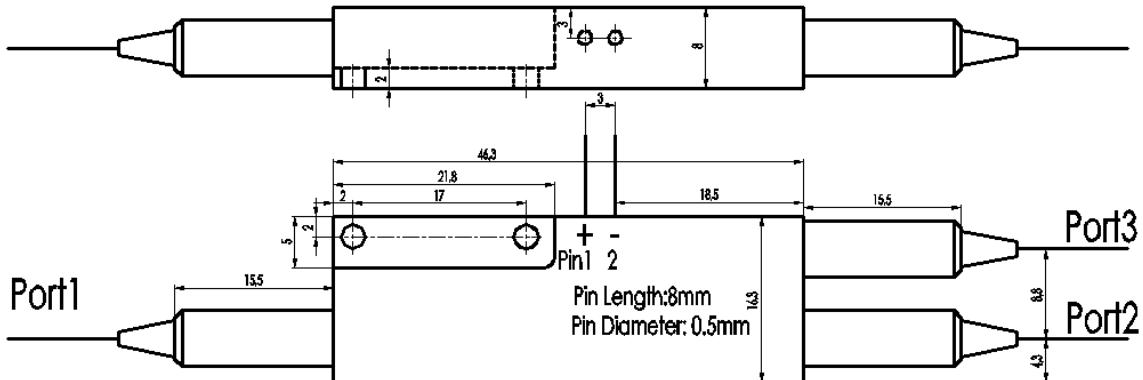


## Speed and Repetition Measurement
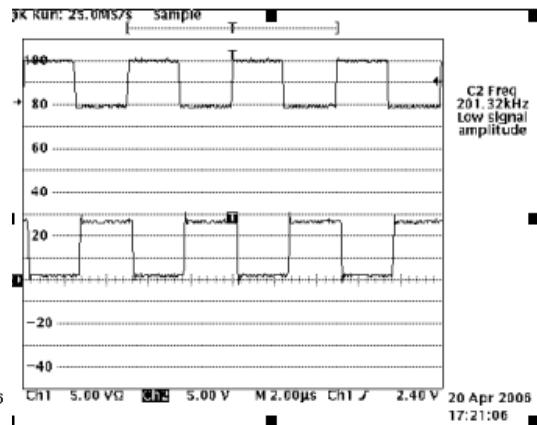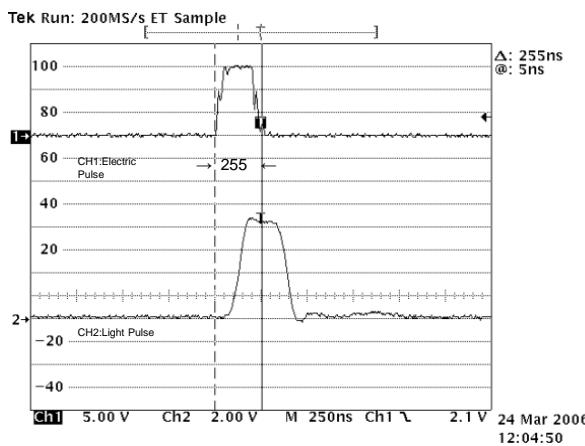
Revision: 07-26-13

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## Bandwidth Measurement at specified wavelength

**Typical Cross Talk Curve for NanoSpeed Switch/VOA**
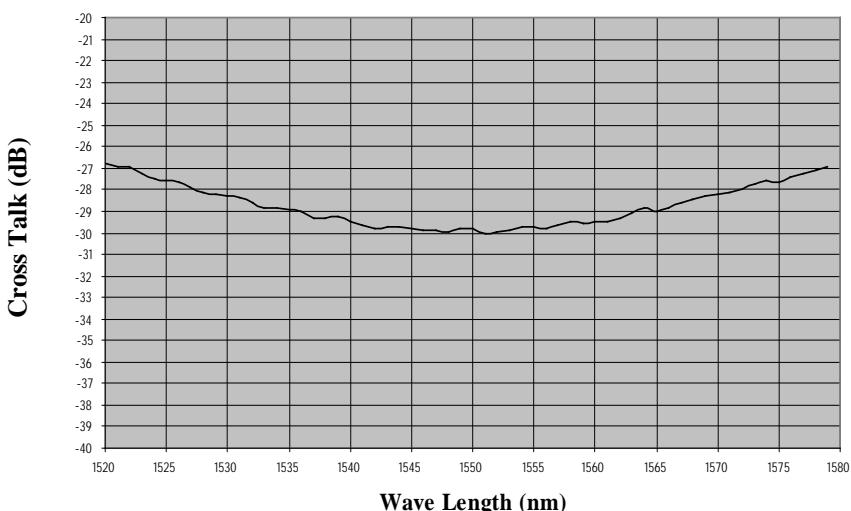


## Ordering Information

| NSBW- | ☐☐ | ☐ | 1 | 2 | 1 | | ☐ | ☐ | ☐ |
|-------|------|------------|---------------|---------|------------|--|-------------|-------------|-----------|
| | **Type** | **Wavelength** | **Configuration** | **Package** | **Fiber Type** | | | **Fiber Length** | **Connector** |
| | 1x2=12 | 1260~1650=1 | | | SMF-28=1<br>Special=0 | Bare fiber=1<br>900um loose tube=3<br>Special=0 | 0.25m=1<br>0.5m=2<br>1.0 m=3<br>Special=0 | None=1<br>FC/PC=2<br>FC/APC= 3<br>SC/PC=4<br>SC/APC=5<br>ST/PC=6<br>LC=7<br>Special=0 |

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