



## PBSSF-M50

### 10 /1 Gigabit (MM) Fiber Bypass Switch Stand Alone Unit

#### Product Description

Silicom PBSSF-M50 is external Bypass switches for 10 /1 fiber Gigabit Ethernet networks. The Silicom Bypass switch protects from network failures and Network maintenance by ensuring network integrity during power loss. Silicom Bypass switch includes Network ports, Monitor ports and control port.

The Network ports are used to connect to Switch / Router Network connections. The Monitor ports are used for an in-line networking device.

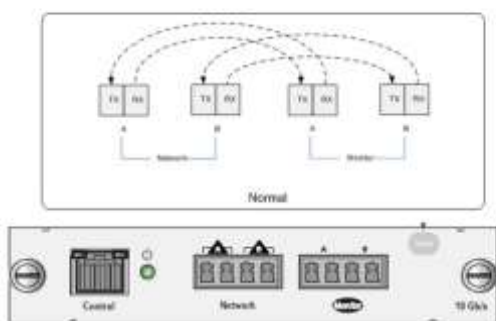
The control port is used to control the mode of the Bypass switch. On power on, the mode of the Bypass switch is set to Normal, on power lose, the mode of the Bypass switch is set to Bypass.



#### Functional Description

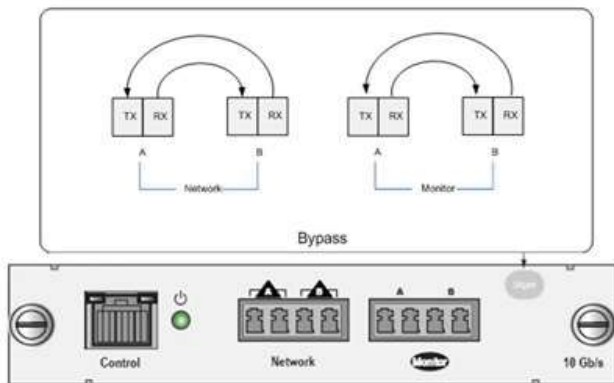
In Normal mode, the Bypass switch diverts the data from the Network ports data to the Monitor ports.

Figure: 1 – Normal Mode Functional Block Diagram



In Bypass mode, the Network data traffic routed directly to the other Network port and the Monitor data traffic routed directly to the other Monitor port

Figure: 2 – Bypass Mode Functional Block Diagram



### Key Features

**Bypass:**

- Bypass Ethernet ports on Power lose
- Reliable Passive solution
- High speed switching
- Low insertions loss
- Throughput not affected and no added delay

**PBSSF-M50:**

- Supports Fiber Gigabit Ethernet (1000Base-SX)
- Supports Short Range Fiber 10 Gigabit Ethernet (10GBase-SR)

### Technical Specifications

Fiber Gigabit Ethernet General Technical Specifications – (1000BaseSX)	
IEEE Standard / Network topology	Fiber Gigabit Ethernet, 1000Base-SX (850nM)
Cables and Operating distance	Multimode fiber: 550m at 50 um ** **Theoretical Distance – Defined as half a distance as stated by the IEEE 802.3 standard
Insertion loss (Normal)	Typical: 0.97 dB Maximum: 1.8 dB (Sum of insertion losses: LC/LC+ fibers and optic switch+LC/LC=.0.3+1.2+0.3=1.8dB) Minimum: 0.9dB (Sum of insertion losses: LC/LC+ fibers and optic switch+LC/LC=.0.1+0.7+0.1=0.9dB)
Insertion Loss (Bypass)	Typical: 1.69 dB

	<p>Maximum: 1.8 dB (Sum of insertion losses: LC/LC+ fibers and optic switch+LC/LC=.0.3+1.2+0.3=1.8dB)</p> <p>Minimum: 0.9dB (Sum of insertion losses: LC/LC+ fibers and optic switch+LC/LC=.0.1+0.7+0.1=0.9dB)</p>
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#### Fiber 10Gigabit Ethernet Technical Specifications – (10GBase-SR) Adapters

<b>IEEE Standard / Network topology</b>	Fiber Gigabit Ethernet, 10GBase-SR (850nm)
<b>Data Transfer Rate</b>	20Gbit/s in full duplex mode per port
<b>Cables and Operating distance</b>	<p>Multimode fiber:50um</p> <p>50um, 400MHz/Km 66m</p> <p>50um, (OM2)500 MHz/Km 82m</p> <p>50um, (OM3)2000MHz/Km 300m **</p> <p>Theoretical Distance – Defined as half a distance as stated by the IEEE 802.3 standard</p>
<b>Insertion Loss (Normal)</b>	<p>Typical: 0.97 dB</p> <p>Maximum: 1.8 dB (Sum of insertion losses: LC/LC+ fibers and optic switch+LC/LC=.0.3+1.2+0.3=1.8dB)</p> <p>Minimum: 0.9dB (Sum of insertion losses: LC/LC+ fibers and optic switch+LC/LC=.0.1+0.7+0.1=0.9dB)</p>
<b>Insertion Loss (Bypass)</b>	<p>Typical: 1.69 dB</p> <p>Maximum: 1.8 dB (Sum of insertion losses: LC/LC+ fibers and optic switch+LC/LC=.0.3+1.2+0.3=1.8dB)</p> <p>Minimum: 0.9dB (Sum of insertion losses: LC/LC+ fibers and optic switch+LC/LC=.0.1+0.7+0.1=0.9dB)</p>

#### PBSSF-M50 : General Technical Specifications

<b>Size</b>	x 152mm x 120.5mm x 24mm (6" x 4.75" x 1")
<b>Voltage</b>	+5V
<b>Weight</b>	690 gram (24.4 oz)
<b>Power Consumption</b>	(0.184W) 40mA at 4.6V
<b>Operating Humidity</b>	0%–90%, non-condensing
<b>Operating Temperature</b>	0°C – 50°C (32°F – 122°F)

<b>Storage Temperature</b>	-20°C–65°C (-4°F–149°F)
<b>EMC Certifications</b>	ClassB
<b>MTBF*</b>	> 50 years
<b>PBSSF-M50 : LED Connector Specifications</b>	
<b>LEDs</b>	(1) LED Blue LED indicating Power /Bypass
<b>Connectors</b>	(2) Quad LC per segment RJ45 Control connector – Pin 5 5v, Pin 4 GND, pin 1 and pin 2 are shorted

### Order Information

<b>P/N</b>	<b>Description</b>
<b>PBSSF-M50-R</b>	10 /1 Gigabit (MM) Fiber Bypass Switch Stand Alone Unit
<b>RK-1U-3-PBSS</b>	1U Rack Mount Kit for Three PBSS products

Note: Model P/N /-RoHS

-R: RoHS Compliant / Lead free adapter

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