

# SFP-1G Series

## 1G-port Gigabit Ethernet SFP modules



- > Compliant with IEEE 802.3z
- > Differential LVPECL inputs and outputs
- > Single 3.3 V power supply
- > TTL signal detect indicator
- > Hot pluggable
- > Class 1 laser product, complies with EN60825-1

The certification logos shown here apply to some or all of the products in this section. For details, see "Regulatory Approvals" under "Specifications" below.



### Specifications

#### Interface

Ethernet Ports: 1

Connectors: Duplex LC Connector or Simplex LC Connector (WDM-type only)

Note: WDM-type SFP modules must be used in pairs (e.g., SFP-1GXXALC and SFP-1GXXBLC)

#### Optical Fiber

|                  | Gigabit Ethernet   |                   |                    |                    |                    |                     |                        |                        |                        |                        |                        |                        |
|------------------|--------------------|-------------------|--------------------|--------------------|--------------------|---------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|                  | SFP-SX             | SFP-LSX           | SFP-LX             | SFP-LHX            | SFP-ZX             | SFP-EZX             | SFP-10A                | SFP-10B                | SFP-20A                | SFP-20B                | SFP-40A                | SFP-40B                |
| Wave-length      | 850 nm             | 1310 nm           | 1310 nm            | 1310 nm            | 1550 nm            | 1550 nm             | TX 1310 nm, RX 1550 nm | TX 1550 nm, RX 1310 nm | TX 1310 nm, RX 1550 nm | TX 1550 nm, RX 1310 nm | TX 1310 nm, RX 1550 nm | TX 1550 nm, RX 1310 nm |
| Max. TX          | -4 dBm             | -1 dBm            | -3 dBm             | 1 dBm              | 5 dBm              | 5 dBm               | -3 dBm                 |                        | -2 dBm                 |                        | 2 dBm                  |                        |
| Min. TX          | -9.5 dBm           | -9 dBm            | -9.5 dBm           | -4 dBm             | 0 dBm              | 0 dBm               | -9 dBm                 |                        | -8 dBm                 |                        | -3 dBm                 |                        |
| RX Sensitivity   | -18 dBm            | -19 dBm           | -20 dBm            | -24 dBm            | -24 dBm            | -30 dBm             | -21 dBm                |                        | -23 dBm                |                        | -23 dBm                |                        |
| Link Budget      | 8.5 dB             | 10 dB             | 10.5 dB            | 20 dB              | 24 dB              | 30 dB               | 12 dB                  |                        | 15 dB                  |                        | 20 dB                  |                        |
| Typical Distance | 550 m <sup>a</sup> | 2 km <sup>b</sup> | 10 km <sup>c</sup> | 40 km <sup>c</sup> | 80 km <sup>c</sup> | 110 km <sup>c</sup> | 10 km <sup>c</sup>     |                        | 20 km <sup>c</sup>     |                        | 40 km <sup>c</sup>     |                        |
| Saturation       | 0 dBm              | -3 dBm            | -3 dBm             | -3 dBm             | -3 dBm             | -3 dBm              | -1 dBm                 |                        | -1 dBm                 |                        | -1 dBm                 |                        |

a. 50/125 μm, 400 MHz \* km or 62.5/125 μm, 500 MHz \* km @ 850 nm multi-mode fiber optic cable

b. 62.5/125 μm, 750 MHz \* km @ 1310 nm multi-mode fiber optic cable

c. 9/125 μm single-mode fiber optic cable

#### Environmental Limits

##### Operating Temperature:

Standard Models: 0 to 60°C (32 to 140°F)

Wide Operating Temp. Models: -40 to 85°C (-40 to 185°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

#### Regulatory Approvals

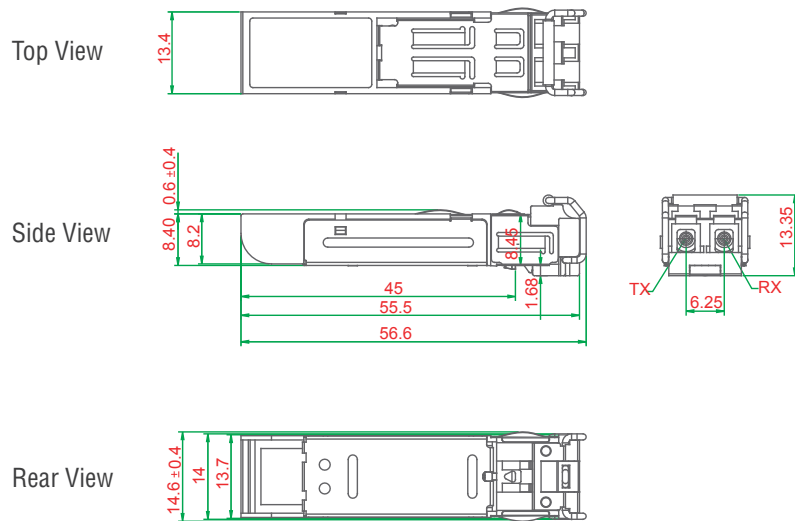
Safety: UL, TÜV

#### Warranty

Warranty Period: 3 years

Details: See [www.moxa.com/warranty](http://www.moxa.com/warranty)

**Dimensions (unit = mm)**



**Ordering Information**

**SFP Modules**

| Available Models                 |                                | Port Interface                   |                                 |                                 |                                  |                                 |                                  |
|----------------------------------|--------------------------------|----------------------------------|---------------------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|
| Standard Temperature (0 to 60°C) | Wide Temperature (-40 to 85°C) | 1000BaseSX, LC Connector, 0.5 km | 1000BaseLSX, LC Connector, 2 km | 1000BaseLX, LC Connector, 10 km | 1000BaseLHX, LC Connector, 40 km | 1000BaseZX, LC Connector, 80 km | 1000BaseZX, LC Connector, 110 km |
| SFP-1GSXLC                       | SFP-1GSXLC-T*                  | 1                                | ---                             | ---                             | ---                              | ---                             | ---                              |
| SFP-1GLXLC                       | SFP-1GLXLC-T                   | ---                              | 1                               | ---                             | ---                              | ---                             | ---                              |
| SFP-1GLXLC                       | SFP-1GLXLC-T                   | ---                              | ---                             | 1                               | ---                              | ---                             | ---                              |
| SFP-1GLHLC                       | SFP-1GLHLC-T                   | ---                              | ---                             | ---                             | 1                                | ---                             | ---                              |
| SFP-1GZLC                        | SFP-1GZLC-T                    | ---                              | ---                             | ---                             | ---                              | 1                               | ---                              |
| SFP-1GEZLC                       | ---                            | ---                              | ---                             | ---                             | ---                              | ---                             | 1                                |

Note: SFP-1GSXLC-T: -20 to 75°C operating temperature

**WDM-type (BiDi) SFP Modules**

| Available Models                 |                                | Port Interface                   |                        |                                  |                        |                                  |                        |
|----------------------------------|--------------------------------|----------------------------------|------------------------|----------------------------------|------------------------|----------------------------------|------------------------|
| Standard Temperature (0 to 60°C) | Wide Temperature (-40 to 85°C) | 1000BaseSFP, LC Connector, 10 km |                        | 1000BaseSFP, LC Connector, 20 km |                        | 1000BaseSFP, LC Connector, 40 km |                        |
|                                  |                                | TX 1310 nm, RX 1550 nm           | TX 1550 nm, RX 1310 nm | TX 1310 nm, RX 1550 nm           | TX 1550 nm, RX 1310 nm | TX 1310 nm, RX 1550 nm           | TX 1550 nm, RX 1310 nm |
| SFP-1G10ALC                      | SFP-1G10ALC-T                  | 1                                | ---                    | ---                              | ---                    | ---                              | ---                    |
| SFP-1G10BLC                      | SFP-1G10BLC-T                  | ---                              | 1                      | ---                              | ---                    | ---                              | ---                    |
| SFP-1G20ALC                      | SFP-1G20ALC-T                  | ---                              | ---                    | 1                                | ---                    | ---                              | ---                    |
| SFP-1G20BLC                      | SFP-1G20BLC-T                  | ---                              | ---                    | ---                              | 1                      | ---                              | ---                    |
| SFP-1G40ALC                      | SFP-1G40ALC-T                  | ---                              | ---                    | ---                              | ---                    | 1                                | ---                    |
| SFP-1G40BLC                      | SFP-1G40BLC-T                  | ---                              | ---                    | ---                              | ---                    | ---                              | 1                      |

**The SFP-1G series modules can be used with the following products**

- EDS-728/828 series:** IM-2GSFP series Gigabit Ethernet interface modules
- EDS-G509 series:** 9G-port full Gigabit managed Ethernet switches
- EDS-518A series:** 16+2G-port Gigabit managed Ethernet switches
- EDS-510A series:** 7+3G-port Gigabit managed Ethernet switches
- EDS-P510 series:** 7+3G-port Gigabit PoE managed Ethernet switches
- PT and IKS series:** PM-7200-2G/4G series Gigabit Ethernet interface modules
- EDS-G308 series:** 8G-port full Gigabit unmanaged Ethernet switches
- IMC-101G series:** Industrial Gigabit media converters