

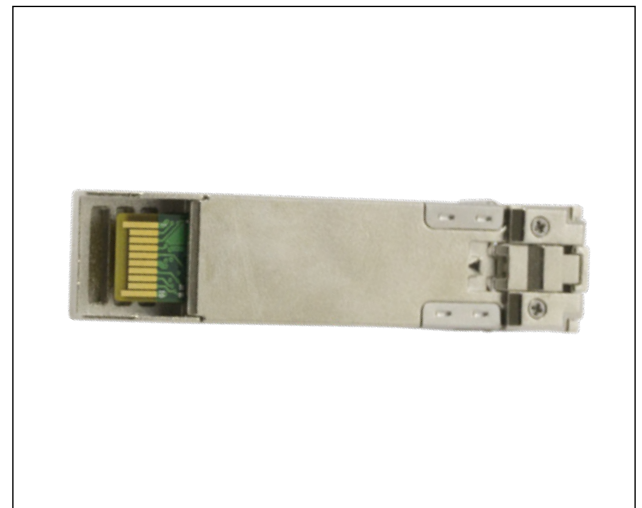
1GBASE-SX SFP 850NM 550M DOM TRANSCEIVER --  
 MULTIMODE FIBER - 1EA

SCP PART#:  
**F-SFP1G-MM**

## PRODUCT SUMMARY

The F-SFP1G-MM multi-mode transceivers are small form factor pluggable module for bi-directional serial optical data communications such as Gigabit Ethernet 1000BASESX and Fiber Channel FC-PH-2 for 100-M5-SN-1 and 100-M6-SN-1. It features a SFP 20-pin connector to allow hot plug capability. This module is designed for multi-mode fiber and operates at a nominal wavelength of 850nm.

The transmitter section uses a Vertical Cavity Surface Emitted Laser (VCSEL) which is a Class 1 laser compliant according to International Safety Standard IEC 60825. The receiver section uses an integrated GaAs detector preamplifier (IDP) mounted in an optical header and a limiting post-amplifier IC.



## FEATURES & BENEFITS

- Operating Data Rate up to 1.25Gbps
- 550m with 50/125 μm SMF
- Single 3.3V Power Supply and LVTTTL Logic Interface
- Hot-Pluggable SFP Footprint Duplex LC Connector Interface
- Class 1 FDA and IEC60825-1 Laser Safety Compliant
- Built-in digital diagnostic functions, including optical power monitoring
- Commercial Temperature Range: 0~+70°C
- Compliant with MSA SFP Specification

## SPECIFICATIONS

|                              |                         |
|------------------------------|-------------------------|
| Form Type                    | SFP                     |
| Max Data Rate                | 1000Mbps                |
| Wavelength                   | 850nm                   |
| Max Cable Distance           | 550m over OM2 MMF       |
| Interface                    | LC duplex               |
| Optical Components           | VCSEL 850nm             |
| Cable Type                   | MMF                     |
| DOM Support                  | Yes                     |
| TX Power                     | -9.5 ~ - 3dBm           |
| Receiver Sensitivity         | < -17dBm                |
| Commercial Temperature Range | 0 to 70°C (32 to 158°F) |
| Protocols                    | SFP MSA, IEEE 802.3z    |

| General Product Characteristics        |  |      |       |      |      |
|--|--|------|-------|------|------|
| Parameter                              | Symbol                                       | Min  | Typ.  | Max  | Unit |
| Bit Rate                               | BR   |      |       | 1.25 | Gbps |
| Max. Supported Link Length             | L <sub>MAX</sub>                             |      |       | 550  | m    |
| Absolute Maximum Ratings               |  |      |       |      |      |
| Parameter                              | Symbol                                       | Min  | Typ.  | Max  | Unit |
| Storage Temperature                    | T <sub>S</sub>                               | -40  |       | +85  | °C   |
| Supply Voltage                         | V <sub>CC</sub>                              | -0.5 |       | 3.6  | V    |
| Operating Relative Humidity            |  | -    |       | 95   | %    |
| Optical and Electrical Characteristics |  |      |       |      |      |
| Parameter                              | Symbol                                       | Min  | Typ.  | Max  | Unit |
| 9μm Diameter MMF                       | L  |      | 550   |      | km   |
| Power Supply Voltage                   | V <sub>CC</sub>                              | 3.15 | 3.3   | 3.45 | V    |
| Power Supply Current                   | I <sub>CC</sub>                              |      |       | 300  | Ma   |
| Data Rate GBE                          |  |      | 1.25  |      | Gbps |
| Data Rate FC                           |  |      | 1.063 |      | Gbps |
| Transmitter                            |  |      |       |      |      |
| Parameter                              | Symbol                                       | Min  | Typ.  | Max  | Unit |
| Center Wavelength                      | λ <sub>C</sub>                               | 830  | 850   | 860  | nm   |
| Spectral Width (RMS)                   | Δλ   |      |       | 0.85 | nm   |
| Average Output Power                   | P <sub>out</sub>                             | -9.5 |       | -3   | dBm  |
| Extinction Ratio                       | ER   | 9    |       |      | dB   |
| Rise/Fall Time (20%~80%)               | tr/tf  |      |       | 260  | ps   |
| Total Jitter                           | TJ   |      |       | 0.43 | UI   |
| Output Optical Eye                     | IEEE 802.3z and ANSI Fiber Channel Compliant |      |       |      |      |
| TX_Disable Assert Time                 | t <sub>off</sub>                             |      |       | 10   | μs   |
| Receiver                               |  |      |       |      |      |
| Parameter                              | Symbol                                       | Min  | Typ.  | Max  | Unit |
| Center Wavelength                      | λ <sub>C</sub>                               | 760  |       | 860  | nm   |
| Receiver Sensitivity                   | P <sub>MIN</sub>                             |      |       | -17  | dBm  |
| Receiver Overload                      | P <sub>MAX</sub>                             | -3   |       |      | dBm  |
| Return Loss                            |  | 12   |       |      | dB   |
| LOS De-Assert                          | LOSD   |      |       | -18  | dB   |
| LOS Assert                             | LOSA   | -35  |       |      | dBm  |
| LOS Hysteresis                         |  | 1    |       |      | dB   |
| Other                                  |  |      |       |      |      |
| Warranty                               | Three years                                  |      |       |      |      |

## TECHNICAL DRAWING

