

# SFP-10G Series

1-port 10 Gigabit Ethernet SFP+ modules



## Features and Benefits

- Digital Diagnostic Monitor Function
- Compliant with IEEE 802.3ae
- SFF-8432 SFP+ MSA compliant
- Hot pluggable LC duplex connector
- Class 1 Laser International Safety Standard IEC 60825-1 compliant
- RoHS compliant

## Certifications



## Introduction

The SFP-10G Series 1-port 10 Gigabit Ethernet SFP+ modules are available as optional accessories for a wide range of Moxa switches.

# Specifications

## Ethernet Interface

|               |  |                         |            |       |       |               |               |               |              |  |
|---------------|--|-------------------------|------------|-------|-------|---------------|---------------|---------------|--------------|--|
| Connectors    | Duplex LC connector  |                         |            |       |       |               |               |               |              |  |
| Optical Fiber | <b>10G Ethernet SFP</b>  |                         |            |       |       |               |               |               |              |  |
|               |  | <b>SFP-SR</b>           |            |       |       | <b>SFP-LR</b> | <b>SFP-ER</b> | <b>SFP-ZR</b> |              |  |
|               | Transceiver Type   | Multi-mode              |            |       |       | Single-mode   | Single-mode   | Single-mode   |              |  |
|               | Fiber Cable Type   | OM1                     | OM2        | OM3   | OM4   | G.652         | G.652         | G.652         |              |  |
|               | Typical Distance   | 33 m                    | 82 m       | 300 m | 400 m | 10 km         | 40 km         | 80 km         |              |  |
|               | Wave-length  | Typical (nm)            | 850        |       |       |               | 1310          | 1550          | 1550         |  |
|               |  | TX Range (nm)           | 840 to 860 |       |       |               | 1260 to 1355  | 1530 to 1565  | 1530 to 1565 |  |
|               |  | RX Range (nm)           | 840 to 860 |       |       |               | 1260 to 1355  | 1530 to 1565  | 1530 to 1565 |  |
|               | Optical Power  | TX Range (dBm)          | -1 to -5   |       |       |               | -8.2 to +0.5  | -1 to +2      | 0 to +4      |  |
|               |  | Max. Rx (dBm)           | +0.5       |       |       |               | +0.5          | -1            | -7           |  |
|               |  | Link Budget (dB)        | 8.3        |       |       |               | 7.4           | 15            | 23           |  |
|               |  | Dispersion Penalty (dB) | 3.9        |       |       |               | 3.2           | 3             | 3            |  |
|               | <p>Note: When connecting the SFP-ER or SFP-ZR, we recommend using an attenuator to prevent damage caused by excessive optical power.</p> <p>Typical Distance: To reach the typical distance of specified fiber transceiver, please refer to formula: Link budget(dB) &gt; dispersion penalty(dB) + total link loss(dB)</p> |                         |            |       |       |               |               |               |              |  |

## Power Parameters

|                   |  |
|-------------------|--|
| Power Consumption | <p>SFP-10GSRLC: Max. 1.5 W</p> <p>SFP-10GLRLC: Max. 1.5 W</p> <p>SFP-10GERLC: Max. 1.5 W</p> <p>SFP-10GSRLC-T: Max. 1 W</p> <p>SFP-10GLRLC-T: Max. 1 W</p> <p>SFP-10GERLC-T: Max. 2.2 W</p> <p>SFP-10GZRLC-T: Max. 2.5 W</p> |
|-------------------|--|

## Environmental Limits

|  |   |
|--|---|
| Operating Temperature                  | <p>Standard Models: 0 to 60°C (32 to 176°F)</p> <p>Wide Temp. Models: -40 to 85°C (-40 to 185°F)</p> <p>Note: When the SFP-10GERLC is used with the ICS-G7750A/G7752A/G7850A/G7852A series, the operating temperature is 0 to 55°C (32 to 131°F)</p> <p>Note: Wide temperature SFP-10G can be used with ICS-G7526A/G7528A/G7826A/G7828A series only. When the SFP-10GZRLC-T used, the operating temperature is -40 to 60°C (-40 to 176°F)</p> |
| Storage Temperature (package included) | -40 to 85°C (-40 to 185°F)  |
| Ambient Relative Humidity              | 5 to 95% (non-condensing)   |

## Standards and Certifications

|        |   |
|--------|---|
| Safety | Standard Models: CE, FCC, TÜV, UL 60950-1, Wide Temp. Models: CE, FCC, IEC 60825-1, UL 62368-1, IEC 62368-1, EN 62368-1 |
|--------|---|

## Warranty

|                 |  |
|-----------------|--|
| Warranty Period | 5 years  |
| Details         | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> |

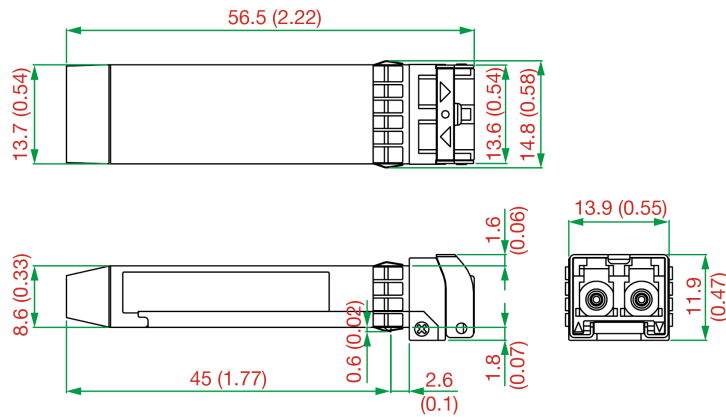
## Package Contents

|               |                           |
|---------------|---------------------------|
| Device        | 1 x SFP-10G Series module |
| Documentation | 1 x warranty card         |

## Dimensions

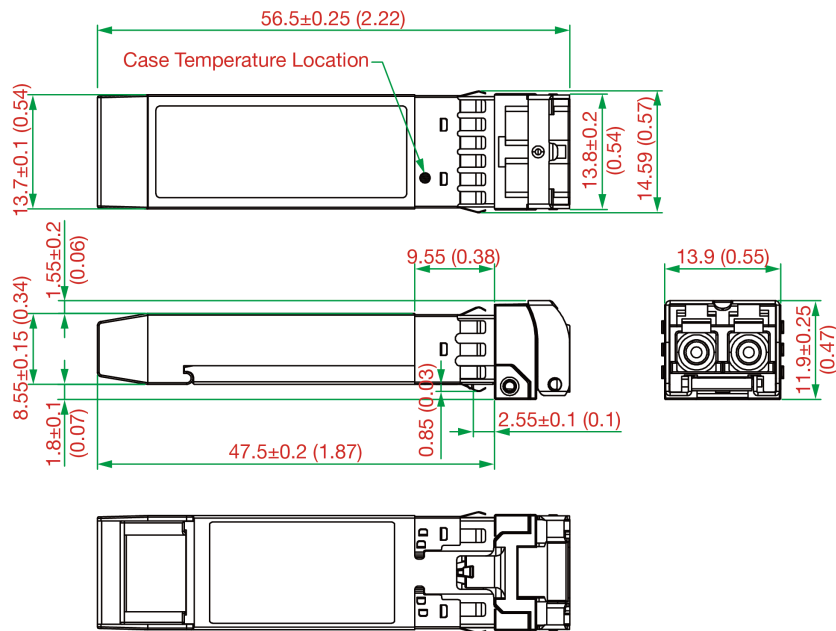
### SFP-10G Series Standard Temperature Models

Unit: mm (inch)



### SFP-10G Series Wide Temperature Models

Unit: mm (inch)



## Ordering Information

| Model Name    | Ports                      | Connector | Transmission Distance | Operating Temp. |
|---------------|----------------------------|-----------|-----------------------|-----------------|
| SFP-10GSRLC   | 1 x 10GBase-SR, multi-mode | LC        | 33 m/82 m/300 m/400 m | 0 to 60°C       |
| SFP-10GSRLC-T | 1 x 10GBase-SR, multi-mode | LC        | 33 m/82 m/300 m/400 m | -40 to 85°C     |

| Model Name    | Ports                       | Connector | Transmission Distance | Operating Temp. |
|---------------|-----------------------------|-----------|-----------------------|-----------------|
| SFP-10GLRLC   | 1 x 10GBase-LR, single-mode | LC        | 10 km                 | 0 to 60°C       |
| SFP-10GLRLC-T | 1 x 10GBase-LR, single-mode | LC        | 10 km                 | -40 to 85°C     |
| SFP-10GERLC   | 1 x 10GBase-ER, single-mode | LC        | 40 km                 | 0 to 60°C       |
| SFP-10GERLC-T | 1 x 10GBase-ER, single-mode | LC        | 40 km                 | -40 to 85°C     |
| SFP-10GZRLC-T | 1 x 10GBase-ZR, single-mode | LC        | 80 km                 | -40 to 85°C     |

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